NOTE

This Microfiche meets the quality requirements of the American National Standard for Microfiche of Documents (ANSI PH5.9-1975). However, because of imperfections in the document from which it was made, it contains images that are illegible or difficult to read. The source document for this microfiche is the best copy that could be obtained prior to filming.

CIS

Congressional Information Service, Inc.
Washington, D.C.

ECONOMICS OF FEDERAL TIMBER SALES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS,
AND ENERGY

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS
FIRST SESSION

FEBRUARY 26, 1985
JUNE 5, AND 6, 1985

Serial No. 99–4

Printed for the use of the Committee on Agriculture

U.S. GOVERNMENT PRINTING OFFICE
45-958 O WASHINGTON : 1985

1161-3

COMMITTEE ON AGRICULTURE

E (KIKA) DE LA GARZA, Texas, *Chairman*

THOMAS S. FOLEY, Washington, *Vice Chairman*
WALTER B. JONES, North Carolina
ED JONES, Tennessee
GEORGE E. BROWN, JR., California
CHARLES ROSE, North Carolina
JIM WEAVER, Oregon
BERKLEY BEDELL, Iowa
GLENN ENGLISH, Oklahoma
LEON E. PANETTA, California
JERRY HUCKABY, Louisiana
DAN GLICKMAN, Kansas
CHARLES WHITLEY, North Carolina
TONY COELHO, California
TOM DASCHLE, South Dakota
CHARLES W. STENHOLM, Texas
HAROLD L. VOLKMER, Missouri
CHARLES HATCHER, Georgia
ROBIN TALLON, South Carolina
HARLEY O. STAGGERS, JR., West Virginia
LANE EVANS, Illinois
ROBERT LINDSAY THOMAS, Georgia
JAMES R. OLIN, Virginia
TIMOTHY J. PENNY, Minnesota
RICHARD H. STALLINGS, Idaho
TERRY L. BRUCE, Illinois[1]

EDWARD R. MADIGAN, Illinois, *Ranking Minority Member*
JAMES M. JEFFORDS, Vermont
E. THOMAS COLEMAN, Missouri
RON MARLENEE, Montana
LARRY J. HOPKINS, Kentucky
ARLAN STANGELAND, Minnesota
PAT ROBERTS, Kansas
BILL EMERSON, Missouri
SID MORRISON, Washington
STEVE GUNDERSON, Wisconsin
COOPER EVANS, Iowa
GENE CHAPPIE, California
WEBB FRANKLIN, Mississippi
TOM LEWIS, Florida
ROBERT F. (BOB) SMITH, Oregon
LARRY COMBEST, Texas
BILL SCHUETTE, Michigan

PROFESSIONAL STAFF

A. MARIO CASTILLO, *Chief of Staff*
PHILLIP L. FRAAS, *Counsel*
CHARLES HILTY, *Minority Staff Director*
BERNARD BRENNER, *Press Secretary*

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

CHARLES WHITLEY, North Carolina, *Chairman*

THOMAS S. FOLEY, Washington
JIM WEAVER, Oregon
JERRY HUCKABY, Louisiana
JAMES R. OLIN, Virginia
RICHARD H. STALLINGS, Idaho
LEON E. PANETTA, California
CHARLES HATCHER, Georgia

SID MORRISON, Washington
RON MARLENEE, Montana
GENE CHAPPIE, California
ROBERT F. (BOB) SMITH, Oregon
BILL SCHUETTE, Michigan

---

[1] Effective only for the first session of the Ninety-ninth Congress.

CONTENTS

FEBRUARY 26, 1985

Page

Foley, Hon. Thomas S., a Representative in Congress from the State of Washington, opening statement 3
Morrison, Hon. Sid, a Representative in Congress from the State of Washington, opening statement 2
Olin, Hon. James R., a Representative in Congress from the State of Virginia, opening statement 4
Schuette, Hon. Bill, a Representative in Congress from the State of Michigan, opening statement 3
Whitley, Hon. Charles, a Representative in Congress from the State of North Carolina, opening statement 1

WITNESSES

Hayes, Forest, district ranger, Nine Mile Ranger District, Lolo National Forest 19
MacCleery, Douglas W., Deputy Assistant Secretary, Natural Resources and Environment, U.S. Department of Agriculture 5
  Prepared statement 145
Peterson, R. Max, Chief, Forest Service, U.S. Department of Agriculture 16
  Prepared statement 150
  Deer Peak Area project location 161
  Dillon Ranger District 169
Skorheim, Terry, district ranger, Dillon Ranger District, White River National Forest 35
Stewart, Fred, forest economist, Lolo National Forest 22

SUBMITTED MATERIAL

"An Analysis of the Appropriateness of 'Below Cost' Timber Sales on National Forests," report prepared by J. Greg Jones and Ervin G. Schuster, Intermountain Forest and Range Experiment Station, U.S. Forest Service, Missoula, MT 42
Peterson, Don, chairman, Summit County Board of County Commissioners, letter of September 21, 1984 178
Peterson, R. Max, Chief, Forest Service, U.S. Department of Agriculture, responses to questions submitted by Hon. Charles Whitley, chairman, Subcommittee on Forests, Family Farms, and Energy 110
"Role of Economic Analysis in National Forest Land Management Planning and Decisionmaking," U.S. Department of Agriculture 6

JUNE 5, 1985

Morrison, Hon. Sid, a Representative in Congress from the State of Washington, opening statement 196
Whitley, Hon. Charles, a Representative in Congress from the State of North Carolina, opening statement 181
  Charter 183
  Letter of May 31, 1985 191
  Letter of June 3, 1985 195

Page

WITNESSES

Benfield, F. Kaid, senior attorney, Natural Resources Defense Council, Inc 219
  Prepared statement 371
  Letter of June 27, 1985 391
Bostic, Jack, bank manager, member, Craig Wildlife Association 254
  Prepared statement 446
Cartee, Larry, assistant executive director, South Carolina Department of Wildlife and Marine Resources 266
  Prepared statement 461
Christensen, Ronald R., executive vice president, Society of American Foresters, presented by James R. Lyons, director, resource policy 279
  Prepared statement 483
Clark, Edward E., Jr., president, Virginia Wilderness Committee 251
  Prepared statement 441
Conley, Jerry M., director, Idaho Department of Fish and Game 268
  Prepared statement 472
Evans, Brock, vice president, national issues, National Audubon Society 213
  Prepared statement 337
Greenwalt, Lynn, vice president, resources conservation, National Wildlife Federation 201
  Prepared statement 305
Helfand, Gloria E., consulting economist, Natural Resources Defense Council, Inc 217
  Prepared statement 345
Hocker, Philip M., architect, member, board of directors, national treasurer, Sierra Club 237
  Prepared statement 423
Jayne, Jerry, board member, Idaho Environmental Council 228
  Prepared statement 395
Kirby, Peter C., senior counsel, resource planning and economics department, Wilderness Society 197
  Prepared statement 286
Loesel, James, landscape architect, Lexington, VA 257
  Prepared statement 450
Mahoney, Tim, Washington representative, Sierra Club 203
  Prepared statement 325
Sampson, R. Neil, executive vice president, American Forestry Association 282
  Prepared statement 486
Smith, Rocky, representing Colorado Mountain Club and Colorado Open Space Council 231
  Prepared statement 405
Smythe, Robert B., conservation chair, North Carolina chapter, Sierra Club 245
  Prepared statement 434
Stahl, Andy, staff forester, National Wildlife Federation 234
  Prepared statement 412
Sullivan, Carl R., executive director, American Fisheries Society 271
  Prepared statement 479

SUBMITTED MATERIAL

Craig, George A., Western Timber Association, statement 492
Sorensen, Carole King, statement 502

JUNE 6, 1985

Schuette, Hon. Bill, a Representative in Congress from the State of Michigan, opening statement 508
Smith, Hon. Robert F., a Representative in Congress from the State of Oregon, opening statement 508
Whitley, Hon. Charles, a Representative in Congress from the State of North Carolina, opening statement 507

WITNESSES

Bennett, Stephen A., Bennett Logging & Lumber Co., on behalf of the Virginia Forestry Association 514
  Prepared statement 649
Beuter, John H., associate dean, College of Forestry, Oregon State University 571

Page
Beuter, John H., associate dean, College of Forestry, Oregon State University—Continued
  Prepared statement ... 857
Craine, James R., vice president, information and environment, Western Timber Association, presented by Mark Rasmussen, policy and programs analyst ... 512
  Prepared statement ... 631
  Additional remarks ... 641
Davenport, John A., independent consultant, timber and forestry ... 564
  Prepared statement ... 821
  Supplemental remarks ... 823
Franzese, Mary Lou, vice president, Idaho Women in Timber, on behalf of Federated Women in Timber ... 556
  Prepared statement ... 796
Goodbar, Danny, president, Two Brothers Logging Co ... 554
Himmel, Pete, resident manager, Pope & Talbot, Inc., on behalf of Black Hills Forest Resource Association ... 532
  Prepared statement ... 699
Jackson, David H., associate professor, forest economics and management, School of Forestry, University of Montana ... 582
  Prepared statement ... 926
Krutilla, John V., senior fellow, Resources for the Future ... 577
  Prepared statement ... 875
McGuire, Greg, manager, district timberlands, Boise Cascade Corp., on behalf of the Forest Industries Region 6 Roads Subcommittee ... 530
  Prepared statement ... 684
Malburg, Richard, Malburg Logging Co., on behalf of the Michigan Association of Timbermen ... 529
  Prepared statement ... 673
Matics, H.E., manager, wood department, Westvaco Corp ... 551
  Prepared statement ... 790
Miller, Joseph S., representing Western Forest Industries Association ... 566
Petry, Glenn H., professor, finance and economics, Washington State University ... 584
  Prepared statement ... 943
Reid, Richard G., executive vice president, Inland Forest Resource Council, on behalf of Inland Forest Resource Council and the National Forest Products Association ... 509
  Prepared statement ... 589
  Letter of June 17, 1985 ... 615
Rideout, Doug, professor, forest economics, Department of Forest and Wood Sciences, Colorado State University ... 580
  Prepared statement ... 901
Riley, James S., executive director, Intermountain Forestry Services ... 536
  Prepared statement ... 784
Sample, V. Alaric, Jr., graduate student, School of Forestry and Environmental Studies, Yale University ... 574
  Prepared statement ... 868
Sitts, James, timber manager, Columbia Carolina Corp., on behalf of the Southern Appalachian Multiple Use Council ... 510
  Prepared statement ... 618
Welling, Michael C., resource manager, Idaho Forest Industries, Inc ... 533
  Prepared statement ... 775
Wilhite, Richard, manager, logging and timber, Guy-Bennett Lumber Co., on behalf of Northwest Pine Association ... 517
  Prepared statement ... 661
Wolf, Robert E., forester, St. Leonard, MD ... 569
  Prepared statement ... 825

SUBMITTED MATERIAL

Hook, David L., vice president, Virginia Four Wheel Drive Association, statement ... 955
National School Boards Association, statement ... 960

ECONOMICS OF FEDERAL TIMBER SALES

TUESDAY, FEBRUARY 26, 1985

House of Representatives,
Subcommittee on Forests, Family Farms, and Energy,
Committee on Agriculture,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 1302, Longworth House Office Building, Hon. Charles Whitley (chairman of the subcommittee) presiding.

Present: Representatives Foley, Weaver, Huckaby, Olin, Stallings, Morrison, Marlenee, Chappie, Smith, and Schuette.

Staff present: Peggy L. Pecore and Glenda L. Temple, clerks; Charlie Rawls, Nick Ashmore, Rita DiSimone, Carol Ann Dubard, and Thomas F. Neville.

OPENING STATEMENT OF HON. CHARLES WHITLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA

Mr. Whitley. The Subcommittee on Forests, Family Farms, and Energy will come to order.

Good morning ladies and gentlemen. This is the first official meeting of the Forests, Family Farms, and Energy Subcommittee for the 99th Congress, and I welcome the members and guests who are with us today. I especially want to welcome the new members to the Agriculture Committee that have chosen to serve on this subcommittee. Of course, I am also very happy to welcome our new ranking minority member, the gentleman from Washington, Mr. Morrison. I look forward to working with you and all the members of the subcommittee in the coming year.

This meeting was called to hear testimony from the U.S. Department of Agriculture and its Forest Service on the issue of below cost sales of Federal timber. It is important that we review all the key issues associated with the timber sales program before drawing conclusions or recommending remedies to the below cost sales question.

I do not say that the jury is out on this issue because the case has not yet been heard. Today we begin gathering information about the timber sales program. The key actor in this discussion is the U.S. Forest Service, and we will hear its views on this subject today. Later this spring we will also hear from other nongovernmental witnesses that are interested in the management of our national forests.

If nothing else, this is a complex issue. However, forest management itself is complex. There are no easy answers when it comes to allocating scarce resources to competing interests.

In reviewing this issue, we need to know if the Forest Service is adequately following the guidance of the National Forest Management Act and the other applicable laws and regulations governing the sale of Federal timber. If the law is not clear, then the question becomes more difficult. A commonsense approach would simply ask whether or not the Forest Service is adequately providing for multiple use of our national forests at a reasonable cost. Clearly, if the Forest Service simply managed its land for timber production, as does a private firm, then its cost to revenue ratio would look much better than it does at present. However, this is not to say that the Forest Service should be planning totally uneconomic timber sales.

The multiple-use mandates of existing law constrain the Forest Service to manage our Federal lands for many purposes. Through multiple-use policies our forests provide, among other things, an abundant supply of wood products, recreation, scenic beauty, watershed protection, and wildlife habitat. Our forests are indeed valuable national treasuries and the stakes are high when we discuss changing the management of them. Accordingly, we will review these issues both closely and comprehensively.

That concludes my opening remarks. I am happy to hear from other members of the subcommittee at this time.

Mr. Morrison.

OPENING STATEMENT OF HON. SID MORRISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. MORRISON. Thank you, Mr. Chairman. My colleagues and I want to thank you for your thoughtfulness in honoring a commitment made to hold hearings on the economics of Federal timber sales. I certainly believe this subject is a bipartisan one which affects nearly every forest region in the United States, and welcome this morning's and this afternoon's testimony.

I think the management of these resources, public lands, is of key importance to all of us. I suppose those of us from the West have a special bias because the Federal Government is the largest landowner in many of our States. I represent several counties where Federal forest land is over 85 percent of the total land volume.

The industries related to that land have been hard hit during the last 5 years, particularly in some of our rural communities. We still have high levels of unemployment. Not all of these areas have high-technology opportunities, as we noticed—reported in the Washington Post this last weekend—has worked very well in some areas of the State of Oregon.

I also have a concern, Mr. Chairman, that the Office of Management and Budget would like to slash timber receipts to our counties by approximately 84 percent in a change of formula. I know that is something that you have an interest in and this committee will be investigating.

Congress through the years has given the Forest Service broad discretion in conducting its activities, particularly as it relates to dependent communities. I would like to compliment them, as I have viewed their activities in many parts of my district, that they have taken into consideration the needs of those communities. The Forest Service is a Government agency, not a corporation, and to assume that it can be managed in a corporate fashion is to assume the impossible.

I, like you, Mr. Chairman, in your statement, wonder how you put a price tag on managing wildlife habitats, wilderness, protection of watersheds and water quality, vegetative management to reduce fire hazards, insect and disease control, and other important functions. Part of our testimony I'm sure that we will hear today will relate to some of these other activities as we look at the profit or loss from timber sales.

Anyway, Mr. Chairman, the important point is that we thank you for following through on this and we welcome Assistant Secretary Doug MacCleery and Chief Max Peterson and other Forest Service personnel who will be appearing here today, and others in the afternoon session. I am confident it will be a good hearing. As you say, we need the facts and figures as we look at this important issue of the question of deficit sales.

Mr. **Whitley**. Thank you, Mr. Morrison.

We are happy to have with us this morning the vice chairman of the full committee and the majority whip, the gentleman from Washington, Mr. Foley.

OPENING STATEMENT OF HON. THOMAS S. FOLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. **Foley**. Thank you, Mr. Chairman.

I don't have a long opening statement. I would like to join with you in welcoming the new members and congratulating my colleague from Washington on becoming the ranking minority member of this subcommittee. As you can see, Mr. Chairman, you are surrounded by Washingtonians. We are happy to give you our advice and counsel throughout the remainder of this Congress. [Laughter.]

I would also like to join in welcoming the Secretary and the Chief. I think these hearings are going to prove very useful to the subcommittee and to the Congress.

Thank you.

Mr. **Whitley**. Thank you, Mr. Foley.

Mr. Chappie.

Mr. **Chappie**. No comments, thank you, Mr. Chairman.

Mr. **Whitley**. Mr. Weaver.

Mr. **Weaver**. No, thank you.

Mr. **Whitley**. Mr. Schuette.

OPENING STATEMENT OF HON. BILL SCHUETTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. **Schuette**. Thank you, Mr. Chairman.

I just want to let all of you know how pleased I am to be a member of the Agriculture Committee, and additionally to serve on this subcommittee with you. I am as anxious and as interested as everyone else here to hear about the timber sale cost and how it has an impact in terms of my district, indirectly with some industries and in some counties that have a great deal of national forest land encompassing the community, so I will listen with interest and I may ask questions when the mood strikes me.

I am pleased to be here with all of you this morning. Thank you.

Mr. **Whitley**. We certainly appreciate your participation.

We recognize the gentleman who has considerable forest in his own district, the gentleman from Virginia, Mr. Olin.

OPENING STATEMENT OF HON. JAMES R. OLIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA

Mr. **Olin**. Thank you, Mr. Chairman.

I, too, am very pleased to be joining this subcommittee. I am in no way an expert on the national forests but I've got a whole lot of them in my district. Some of the counties are well over 50 percent national forest.

In the Eastern part of the country we have forests that were all cut down at the turn of the century, over about 30 or 40 years. The forests have now grown back and the people who live there are really enjoying them.

There are a lot of differences of opinion as to how the forests ought to be managed. It's a matter of very high emotion, and I am looking forward to learning more about the subject and seeing whether there are ways of handling the facts of the situation in a way to sort of tone down the emotion and get us close to good answers on some of these problems.

Thank you, Mr. Chairman.

Mr. **Whitley**. Thank you, Mr. Olin.

Mr. Morrison.

Mr. **Morrison**. I am pleased to see that Congressman Bob Smith is here. He is a new member of the Agriculture Committee, not on this subcommittee unfortunately, but obviously the folks in Oregon have a significant interest in this subject.

Mr. **Whitley**. We certainly would welcome any comment from you, Mr. Smith.

Mr. **Smith**. Thank you, Mr. Chairman.

I am delighted to join my colleagues from the Northwest. I would like to mention that I am a member of the subcommittee.

Mr. **Whitley**. I thought you were.

Mr. **Smith**. Thank you, my good friend from Washington, I appreciate your welcoming me.

Mr. **Morrison**. You're supposed to sit up here, Bob, so we can keep control over you.

Mr. **Smith**. I'm sorry. I am glad to be here. Thank you.

Just let me say that I think in the Northwest it seems that we have less and less forest to manage every time Congress meets.

Mr. **Whitley**. Your name has been put up. You're duly recognized as a member of the subcommittee.

If there are no further comments from members of the subcommittee, we will recognize as our first witness Mr. Douglas W. MacCleery, who is the Deputy Assistant Secretary for Natural Resources and Environment of the U.S. Department of Agriculture.

Mr. McCleery, we are always happy to have you before the subcommittee and we look forward to your testimony.

STATEMENT OF DOUGLAS W. MacCLEERY, DEPUTY ASSISTANT SECRETARY, NATURAL RESOURCES AND ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE

Mr. **MacCleery**. Thank you, Mr. Chairman and members of the committee. I appreciate the opportunity to present the administration's views on issues related to the economics of Federal timber sales.

I am accompanied today by Chief of the Forest Service, Max Peterson. My comments will be from a broad perspective on this issue, while Chief Peterson will deal with more specific issues and examples and deal with the status of actions which currently are being taken related to this issue.

First, let me assure you that the economics of Federal timber sales, or for that matter the economics of any current or proposed program, is of major and continuing interest to the Department. It is our overall policy and intent that the Federal Government should receive fair market value for resources which are provided from the national forest system.

In the last 4 years the Department has focused considerable attention to improving the quality of the economic analysis of Forest Service programs, particularly resource management programs on the national forest system. We have been particularly interested in assuring that the national forest land management planning which is now going on and which Chief Peterson will discuss later, fully evaluates both the environmental and the economic implications of the resource management options that are available, and that the planning documents clearly display the economic and the environmental tradeoffs associated with each planning alternative.

In a paper issued by the Assistant Secretary's office in 1983, the Department lays out what it feels is the appropriate role of economic analysis in national forest land management planning and decisionmaking. With your permission, I would like to submit this paper for the record.

Mr. **Whitley**. Without objection, it will be received.

[The paper follows:]

Role of Economic Analysis in National Forest Land Management Planning and Decisionmaking

U.S. Department of Agriculture - October 10, 1983

During the last three years there has been a major effort by the Assistant Secretary's office to strengthen the use of economics and economic analysis in Forest Service decisionmaking. This has been a very high priority item. We and the Forest Service have been making some major progress in accomplishing this objective. This paper discusses the importance and role of economic analysis in National Forest planning and decisionmaking and lays out in some detail just what is going on in National Forest planning.

Importance of Economics in National Forest Decisionmaking

There is no doubt that proper and competent economic analysis can lead to improved resource management decisions by providing useful information to decisionmakers. Such information can provide insights on ways to increase resource outputs at the same or lower costs. It is also vital in assuring that resource objectives (timber, wilderness, range, wildlife, recreation, minerals, and water) are achieved in the most efficient manner possible. Economic analysis can provide information on the costs of resource opportunities foregone as a result of decisions to meet specific levels of environmental and other nonmarket objectives. Proper consideration of the economic consequences of various options is also required by law. Both RPA and NFMA contain numerous requirements for economic evaluation.

The Assistant Secretary's office has devoted considerable effort to assuring that economic considerations are properly evaluated in National Forest land management planning. One of the reasons for this is our strong feeling that, in the past, economics have not been given appropriate attention. In many cases the economic implications of many Forest Service policies, such as non-declining yield harvest schedules, rotations based on biological criteria, and the effects of meeting various nonmarket, wildlife and environmental objectives have not been adequately evaluated or considered in Forest Service decisionmaking. We are also sensitive to criticisms that National Forest timber programs in some areas are not economically sound.

Our objective is that the economics of such policies, practices, and programs be dealt with explicitly in the planning process.

Another reason for stressing economics is that we are convinced that there is much more compatibility than is often assumed between economically sound resource management practices and many environmental objectives. It is our goal that National Forest decisionmaking have the benefit of objective analysis that explicitly addresses the true tradeoffs between economically optimal management of land for market resources and management for amenity or environmental ojectives.

Some general observations on the proper use of economic analysis in National Forest decisionmaking follow.

Economic Analysis in National Forest Decisionmaking

First, economic efficiency is but one criterion to be used in decisionmaking--a very important one, but not the only one. Economic analysis provides important information to the decisionmaker. It does not make the decision. Some economists tend to view economics as a decision science. In fact, it is only an information science. Nevertheless, it is an extremely important tool in assessing both problems and opportunities in public forestry investments.

Decisions about public lands will always have a political dimension. The fact that there is a political dimension complicates decisionmaking about public investment, but it does not make economic analysis irrelevant. The public, including various interest groups, has the right and freedom to express and vote for policy preferences. This is consistent with our democratic institutions. It is not the role, either of public participation, or of economic efficiency, to dictate the decision. Both provide useful information to assist the decisionmaker in making informed choices. The role of economic analysis is to improve the usefulness of information available to the public and to decisionmakers for resource allocation purposes.

Secondly, Federal lands are characterized by both market and non-market resource outputs. By law, national forests must be managed for various multiple uses--some of which are priced and for which revenues are received, and some of which cannot be readily priced in the market sense or otherwise valued in dollar terms commensurate with priced outputs. The goal of analysis is to help identify a level and mix of multiple uses, that is optimal, now and for the future, to the national social welfare. That is easier said than done, of course, since it involves subjective judgments about the importance of various non-priced benefits, and requires evaluation of the anticipated net benefits of alternative mixes of priced and non-priced objectives.

Thirdly, it is the nature of federal resource investments that many of them produce joint outputs--some of which are priced and some non-priced. A road investment may produce timber outputs, may be used for a wide range of recreational activities, and can reduce the costs of protection from fire or insects. A timber sale may be designed to achieve habitat objectives which increase opportunities for both consumptive and nonconsumptive wildlife uses. Any analysis should properly account for the joint benefits produced by such investments.

Current Use of Economics in National Forest Planning and Decisionmaking

How are economic information and criteria being incorporated into planning and decisionmaking? In responding to this question we should look, first, at policy direction which has been issued; second at the analytical tools to be used; third, at the process for using those tools; fourth, at the kinds of data the process is expected to develop; and, lastly, at some of the problems we are having with implementation.

Various elements of the policy related to the use of economics in planning are laid out in National Forest Management Act regulations and in Forest Service manual directions. The policy can be summarized as follows:

1) Economic efficiency is one criterion to be considered in decisionmaking.

2) The primary measure of economic efficiency is present net value (PNV)...a determination of anticipated benefits less anticipated costs, both discounted to the present. Present net value is an extremely important economic concept. It is one component or partial measure of public net benefits. Present net value is an important measure of the economic value to society of a tract of land under a given management regime. Since changing management practices very often can change the economic value of land, PNV is very important in decisionmaking. By definition, PNV measures only the net economic value of resource benefits to which dollar values can be assigned. These usually include: timber; minerals; range forage; visitor-days for wildlife, wilderness, and other recreation uses; and some uses of water. PNV also reflects the cost of producing outputs that can be valued in dollars, as well as costs of providing outputs that cannot be so valued. Thus, PNV understates total net benefits where costs are incurred to produce some non-priced benefits.

3) The economic, social, and environmental effects of a broad range of alternatives must be fully evaluated and displayed. In doing so, the benefits and the specific costs of non-priced objectives having a significant effect on PNV must be identified and evidence provided that a rigorous effort was made to assure they are achieved efficiently.

4) The analysis will evaluate alternative bundles or mixes of resource outputs. Because of the joint nature of many resource investments and other activities, no attempt will be made to evaluate investments by arbitiarily allocating costs and benefits to a single resource, such as timber or recreation. Instead, planning alternatives emphasizing particular resource objectives will be formulated and compared to alternatives emphasizing other resource objectives and output levels.

A fundamental and overriding principle of our policy is that the analysis should be completely neutral, unbiased, and of course, should precede decisionmaking.

Analytical Tools

The Forest Service is using a computer model called FORPLAN which maximizes PNV, subject to various limitations of constraints imposed to achieve non-market outputs or benefits. The FORPLAN model is capable of both economically efficient land allocation and resource output scheduling.

The basic units of analysis are called, appropriately, "analysis areas," which are small subdivisions of the forest having similar characteristics of costs and responses to management activities or areas that must be managed as entities.

Various prescriptions are applied to analysis areas. These prescriptions embody a set of management practices, with corresponding direct costs and yields of the various resources, both priced and non-priced, likely to result from application of the prescription to the analysis area.

This approach deals with two important considerations: One, that the measurable costs and benefits be specific to particular analysis areas, and two, that it provide estimates of conditions and yields of resources not capable of being priced.

The analysis deals with resources or environmental objectives which cannot be assigned dollar values by assuming that specified requirements or levels are to be met. Examples are legal requirements, such as minimum legal water quality requirements and requirements to provide for the habitat needs of threatened and endangered species, as well as discretionary objectives, such as visual quality requirements, requirements for dispersal of clearcuts, and providing wildlife habitat in addition to that required to maintain minimum viable wildlife populations.

In the FORPLAN model, priced resources are normally included in the objective function while non-priced resource outputs are met at specified levels through use of what are termed "constraints." The FORPLAN model will help find the most cost efficient combination of land allocations and output levels for the priced resources, subject to meeting the specified levels of non-priced objectives or constraints for the National Forest as a whole. The economic cost of constraints is represented by the reduction in PNV resulting from their imposition. However, the value of the outputs or other objectives produced by imposing constraints is subjective, since constraints are imposed to acheive non-market objectives to which dollar values cannot be assigned.

From an economic standpoint, non-priced outputs handled as constraints are treated as having infinite value. These outputs will be provided at the level specified regardless of their cost. Constraints will directly reduce the PNV if they limit the otherwise most economically efficient combination of priced outputs or increase the total costs of management. Because of this, constraints must be both well described and throughly rationalized--which means that the costs and anticipated benefits of constraints must be layed out.

A decision as to whether the value of the constraint is worth its known cost in terms of foregone benefits from priced resources must, of necessity, be based on informed judgment. Conceptually there is nothing new about this. National Forest planning has always been an exercise of balancing priced and non-priced objectives. What has changed is the advent of computers which have allowed us systematically to analyze highly complex situations. They provide an extremely powerful tool to assist in achieving more efficient solutions. The use of these tools gives us the ability and also entails an obligation to do more detailed trade-off analysis than has been done in the past. Unfortunately, many Forest planning drafts to date have been particularly weak in identifying the costs of contraints and in articulating the reasons for adopting the constraints despite the cost.

The Process

The process has a number of required steps.

In one of the early steps, the Forest Service must develop several analyses or "benchmarks." The purpose of these benchmarks is to: 1) help define the maximum economic and biological resource production opportunities, 2) assist in evaluating the compatibilities and conflicts between market and non-market objectives, and 3) define the range within which integrated formal planning alternatives can be formulated.

Some benchmarks are economically based, while others indicate the maximum physical productivity of land for various resources. In these benchmark analyses, each option must include meeting minimum legal requirements, such as protecting the productivity of the land and meeting minimum air and water quality standards.

Some of the economically based benchmarks are designed to determine how the land would be managed if only market resources were emphasized. In these benchmarks, land allocations and resource output levels are driven by the objective of achieving economically efficient levels of priced resources. Policies, such as those relating to non-declining yield timber harvest schedules and biologically determined rotation lengths, from which deviations are legally allowed, are not to be imposed in some benchmark analyses, nor are requirements for specific levels of non-priced multiple uses to be specified. However, meeting minimum legal and environmental standards is required.

Several kinds of benchmarks are required, including those which maximize PNV only for those resources capable of generating receipts and those that maximize PNV for any resource to which a price can be assigned. The first kind is usually limited to timber, minerals, developed recreation, and grazing. The latter kind usually add to the list wildlife dependent and other dispersed recreation, which often can be priced but for which fees are not collected.

The benchmarks which maximize PNV for resources capable of generating receipts provide a measure that an economist might call "market efficiency." They are treated only as information benchmarks, not as formal planning alternatives. They serve to assist in defining a broad range of formal planning alternatives. In these information or "market efficiency" benchmarks, non-priced values and objectives will be achieved to the extent they do not reduce economically efficient levels of the market resources. These analyses, therefore, can be extremely valuable for illustrating compatibilities and conflicts between priced and non-priced resources. Many assume a high level of conflict is implicit. However, on some forests it has been found that there is significant compatibility between economically efficient production levels of priced resources and many non-priced objectives.

After obtaining benchmark analyses, the next step is to formulate the formal planning alternatives, which are various mixes of priced and non-priced resources. Many of these alternatives are designed to respond to issues raised by the public. Others may need to be formulated to explore a full range of efficient resource production possibilities. The alternatives are laid out as formal planning alternatives in a draft EIS, and public comment is invited.

The last step is for the appropriate forest official to decide which alternative responds most effectively to statutorily prescribed National Forest objectives, to national policy considerations, and to expressed public interests. An economist might refer to this step as the concept of "welfare maximization." The National Forest planning regulations use the term "maximization of net public benefits." The concept is the same. The objective is to select the particular combination of priced and non-priced resources and their related effects which seems optimal. By its very nature, that is a subjective determination; there can be no single index or parameter of optimization. However, the decision is aided by information about the nature of resource tradeoffs and relative economic efficencies, by projections of anticipated future demands and supplies for the various natural resources, by resource goals established under RPA, and by expressed public preferences.

That the planning process is specified in regulations does not make the the ultimate decision any less subjective. However, the decisionmaking process is more systematic, and is easier to articulate than it has been in the past. Requiring more consistent examination of the economic, social, and enviromental effects and tradeoffs associated with the various management options makes the final decision a better informed one.

Information Objectives

Enough on process. What kind of information is to be generated by the process? The process is designed:

1. To permit better understanding of the resource tradeoffs among the various planning alternatives in their economic and enviromental dimensions.

2. To demonstrate full opportunity costs of one course of action versus another.

3. To evaluate the economics of timber production, including identification of lands having both positive and negative PNV's for timber production.

4. To assist in assessing compatibilities and conflicts among various resource objectives.

5. To identify and display both financial costs and anticipated benefits and other effects of constraints designed to achieve non-priced objectives that reduce PNV. Examples of such objectives include non-declining yield, rotations based on biological criteria, and requirements designed for wildlife or aesthetic objectives, such as view zones. They also include production of commodity resources, such as timber, at levels greater than is economically efficient for the purpose of aiding dependent industries in nearby communities. All such situations should be addressed and evaluated explicitly.

6. To generate data in forest planning which will become the data base for the 1985 RPA Program. It is hoped that for the first time in the 1985 RPA Program ground-validated data put together under a consistent set of guidelines will be available. The objective is to have data providing insights into the nature of tradeoffs between alternative resource objectives and allowing a comparison of relative efficiencies among forests and Regions.

How is it Working?

It is a big job, made very complicated by the nature of multi-resource production possibilities and conflicts.

The policy in in place. Direction for its implementation has been given. Implementation is in progress but has been delayed by the decision to reexamine all roadless areas in the forest planning process resulting from the Ninth Circuit Court of Appeals decision which held that the RARE II process was inadequate. Only about 20 Forests have issued draft plans. The outcome is still uncertain. The real test will be the impact that the analysis actually has on the design and application of programs or management practices when the analysis indicates changes are warranted.

In some cases this has happened, but in others it appears that analysis data clearly point away from the preferred alternative, with the reasons for the selection inadequately explained. There is considerable need for improvement in the explanation of the analysis process used, in the presentation of tradeoff information among alternatives, in the discussion of opportunity costs of and anticipated benefits from constraints imposed to achieve the objectives of an alternative, in the discussion of benefits and costs of non-priced objectives that reduce PNV, and in linking public issues back to the planning alternatives.

Other problems include the need to improve consistency in approach between adjacent National Forests in making determinations about suitability of land for timber production; in using and applying basic resource information, such as timber yield data; and in deciding on management requirements for minimum viable populations of wildlife and for water quality protection. There has been a tendancy on some Forests to include in minimum legal and environmental standards requirements that are discretionary and should be subject to evaluation, public debate, and policy decision by the appropriate line officer.

A related common problem is that some planning teams have inappropriately assumed a role of negotiating constraints and resource objectives amongst themselves, rather than adhering to their proper role of objectively evaluating the biological and environmental effects of various mangement options for consideration by those in line authority. This negotiating process can have the effect of dealing the decisionmaker and the public out of the decisionmaking process, and could subject the plan to successful legal challenge.

The land planning exercise has forced us to a general realization that we do not know as much about fundamental resource production relationships as we thought we did. Hopefully land planning will be valuable in identifying important information needs which we can strive to fill before the next round of planning though a combination of improved resource inventories, monitoring, and research.

Evaluation of Departures to Non-Declining Yield

A particularly difficult issue with which we have had to deal is to assure an objective evaluation of departures from non-declining yield harvest schedules and exceptions to timber rotations based on culmination of mean annual increment of stand growth. In the past, the Forest Service did not consider such departures and exceptions in the planning process. There continues to be resistence to an objective and neutral consideration of alternatives to these past policies. Many seem to believe that non-declining yield remains the policy of the Forest Service. Nothing could be further from the truth. That policy was changed substantially by the National Forest Management Act of 1976, to a policy of non-declining yield with provision for departures. Departures are entirely consistent with policy. Indeed, comprehensive evaluation of departures is absolutely essential to properly carrying out that policy.

Many believe that non-declining yield is essential to assuring protection of environmental values. Planning analysis done on several Forests indicates that this is often not the case. Departing from non-declining yield can provide substantial increases in public benefits while adequately protecting appropriate environmental objectives.

Indeed, in some cases imposing non-declining yield is detrimental both to environmental and to commodity objectives. Its imposition may create a "nobody wins" situation. We are finding cases where both timber harvest levels and the area of land that can be set-aside for amenity values can increase substantially under a well crafted departure. This is because departures permit higher intensities of timber production to be concentrated on the more productive and lower cost forest sites, releasing the higher cost areas (both from an economic and environmental standpoint) to be allocated to non-timber uses. We expect the planning process to result in objective analysis of such situations, as well as any situation where a departure might be expected to result in an increase in benefits. Departures should be provided for whenever the combination of anticipated market outputs and non-market objectives shows a net increase.

Conclusion

We have come a long way toward making effective use of economic analysis and in developing information necessary to planning and decisionmaking. We are not there yet, but we have made major progress.

This Administration has given direction to achieve the best data, production relationship knowledge, and economic analysis that the state-of-the-art and staff capabilities permit in National Forest planning. The Administration also has sought to provide flexibility in time schedules to achieve these high standards of data, analysis and ultimate decisions. The objective is to develop management plans for each National Forest which fully and clearly identify the output capabilities of those Forests, articulate the reasons for selected management alternatives, and are designed to achieve high-levels of outputs in perpetuity.

Mr. **MacCleery**. The Forest Service is directed by statute to manage the national forests in the long term to provide a variety, a wide range of multiple-use resources, most of which are interrelated in various ways. For example, the development of a road into an area may provide access for timber management while at the same time increasing recreational opportunities such as hunting and fishing, improving protection from fire, insects, and disease, and allowing for more intensive wildlife and water resource management. Professional land managers who understand and manage these relationships are many times able to achieve a number of management objectives through one on-the-ground activity.

The complexity of this type of integrated forest management has increased significantly over the last decade, as land managers have been called upon to develop ways to improve the quality and increase the quantity of resources that can be produced from a declining forest land base. As the complexity of forest management has grown, accounting for the costs and benefits has likewise become more complex. A major part of this current issue centers on properly accounting for all the costs and benefits of the timber program. Adding to the complexity of the resource evaluation process is that some resources, like timber, are able to be priced and assigned a dollar value while others, such as scenic resources, cannot readily be assigned a value in dollar terms but are nonetheless very important.

We believe that the long-term economic benefits of national forest management should exceed total timber-related costs unless an unusual circumstance exists. An important distinction, however, is the difference between costs and benefits and costs and revenues. The various policy, legal, and other considerations under which the national forests must operate require that total benefits, both priced and nonpriced, be considered in national forest management.

Current land management planning is designed and intended to answer management questions using the best possible information on benefits and costs. The planning process is intended to result in selection of a management alternative that contains a level and mix of resources, both priced and nonpriced, that is optimal to the national social welfare.

The Department intends that the Forest Service address the below-cost sales issue in three ways: First, consideration needs to be given to clarifying current Forest Service policy as it relates to timber management. Such a policy would make clear our intent that the National Forest Timber Sale Program be conducted in an economically efficient manner. Exceptions might be permitted where an overriding objective, such as protection of the forest from insect epidemic or fire, or attainment of other important nontimber objectives, including maintenance of the stability of dependent communities, would be most efficiently achieved by selling timber below cost. Additional elements of the policy under consideration are to establish a minimum bid price for regular timber sales that would cover the average costs of sale preparation and administration, and to adjust timber sale volumes that would be offered in a way which would be more responsive to market demand.

The second major element in our approach is to evaluate various options for a cost accounting system which better identifies costs and benefits attributed to the timber program. This is a complex issue due to the fact that the activities associated with timber management produce nontimber benefits and also incur costs beyond those that would be necessary to produce timber alone. Even timber management practices designed to be least cost produce nontimber benefits.

In many cases it is efficient to enhance production of nontimber benefits by incurring additional timber management costs. It is important to know the value of these nontimber benefits to guide decisions about incurring these additional costs. Chief Peterson will describe the progress of our efforts to evaluate cost-benefit accounting systems later.

The third major element of our approach to improving the economics of timber production is to continue efforts to evaluate and reduce the costs of the National Forest Timber Program, as well as to increase timber revenues. The amount of timber that is sold below cost can be reduced or eliminated on many national forests by reducing the cost side of the equation and enhancing the revenue side. The agency has made considerable effort over the past couple of years to reduce the costs and increase revenues.

Last year the Forest Service sent a team to the Black Hills National Forest to evaluate what might be done to further reduce timber costs and increase revenues, and this team found that there were considerable opportunities to do both. Further, it is the judgment of the team that similar opportunities exist on other national forests. The Forest Service will be exploring these opportunities in the months ahead.

We are already implementing a number of initiatives to reduce costs and enhance revenues. I will not go into detail at this time. Some are listed in my prepared statement. They relate to reduction in road costs and changes in sale procedures which result in improving cash flow, acquiring more up-front money, and requiring a schedule of payments designed to improve earlier returns to the Government.

In summary, the Department is committed to continuing to manage the National Forest System in the most cost-effective way possible to provide the wide range of multiple-use resources and benefits to the American public.

I again appreciate the opportunity to present the Department's views. Chief Peterson will now present his statement.

[The prepared statement of Mr. MacCleery appears at the conclusion of the hearing.]

Mr. WHITLEY. If there is no objection from the members of the subcommittee, I think we will proceed and let Mr. Peterson testify, and then members of the panel can direct questions to either Mr. MacCleery or Mr. Peterson as we proceed. Is that satisfactory to the members of the subcommittee?

If so, our next witness is a gentleman who certainly is no stranger to any of us, the Chief of the Forest Service, U.S. Department of Agriculture, Mr. R. Max Peterson. Max, we are glad to have you with us this morning. You may proceed to summarize your statement, submit it in the whole for the record, or in whatever manner you think is most appropriate.

STATEMENT OF R. MAX PETERSON, CHIEF, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY GEORGE LEONARD, DIRECTOR, TIMBER MANAGEMENT; FOREST HAYES, DISTRICT RANGER, NINE MILE RANGER DISTRICT, LOLO NATIONAL FOREST; FRED STEWART, FOREST ECONOMIST, LOLO NATIONAL FOREST; AND TERRY SKORHEIM, DISTRICT RANGER, DILLON RANGER DISTRICT, WHITE RIVER NATIONAL FOREST

Mr. PETERSON. Thank you very much, Mr. Chairman. In the interest of time, I would appreciate your receiving my entire statement, and I will attempt to brief it.

Mr. WHITLEY. Without objection.

Mr. PETERSON. I am accompanied on my left here by Mr. George Leonard, the director of our timber management staff, who might be helpful in answering questions later on.

Mr. Chairman, I had hoped last fall when we discussed this that it would be possible for the subcommittee to take a field trip to look at some of the situations in the field which I think would help understand why certain things are done as they are. That not being possible, we have prepared a rather lengthy statement and I have some examples to show you with visuals that may substitute for a field trip. We would hope that at some future time you would be able to make a trip to the field to look at what is going on there.

I am going to first try to talk about some of the broad purposes for which the national forests are managed. You mentioned some of those, Mr. Chairman, in your opening comments, and without looking at the total purposes of the national forests it is very difficult to pick out an individual timber sale somewhere in isolation and evaluate the economics of that sale. We will try to illustrate that.

We will present two examples of actual situations that help illustrate the complexity of the issue and the need to look at all of the resources in both the short term and the long term. Most of the analysis that has been done to date has looked at just cost and revenues in a 1-year snap timeframe without looking at either cost or revenues over a long period of time or looking at other benefits.

We want to also update you on several actions that we have taken or have underway that respond to the questions and concerns that have been raised.

Earlier this month marked the 80th year of the creation of the Forest Service in an act signed by President Theodore Roosevelt. At that time the Forest Service was given the charge to manage national forest lands in the public interest on a sustained basis. That mandate at that time was simply interpreted as managing the national forests for the greatest good of the greatest number in the long run.

Our management philosophy and our organization and our decentralized system of management has grown out of that idea of serving most people, the greatest good in the long run. Even though the specific size of programs and types of programs have changed over these 80 years, the basic mission has not been changed. We simply look at the protection and management of the national forests for this optimum combination of goods and services over time.

The complexity of this mission, it seems to me, has changed for about three reasons. One, we have a lot more people. Two, we have a lot more people wanting different things from those forests; and, three, because of the fact that there is not more land over the hill, as there was at the time when Congressman Olin indicated the forests in the East were cut. You simply can't go over the hill to a new source of raw material or a new source of recreation or some other new source, so we have to manage that land base smarter because there is no more of it, and that inevitably creates some conflicts between those who would like to see it managed for their particular use to the exclusion or drastic reduction of another use.

It seems to me that Congress has established direction for the management of those national forests, beginning with the Organic Act of 1897, where the lands were originally to be managed primarily for timber and water, broadened by the Multiple-Use Act of 1960 that emphasizes all of the renewable resources, and then in 1974 by the Resources Planning Act and in 1976 by the National Forest Management Act. All of those acts emphasize the management of those forests for that combination that yields the greatest benefits. In fact, the Multiple-Use Act says specifically that it may not be the overall combination that gives you the most dollar value, recognizing that there are other important uses.

Renewable resources, which we include as recreation, range, timber, watershed, and wildlife, and fish, as well as important nonrenewable resources such as energy and minerals, need to be protected and managed and used in a manner that assures adequate resources not just for this generation but for generations yet unborn. To do this, decisions simply must be made. You can't simply wait.

Erosion control measures and improvements for fish and wildlife habitat may be very slow to show positive short-term benefits. For example, you are well familiar, Mr. Chairman, in the East that the national forests in North Carolina, and Virginia, and so on, when we acquired them, were cut over and burned over and for the first 30 or 40 years it was almost just a pure investment to get those lands recovered so that they would produce wildlife and beauty and timber and so on. If we had gone on a short-term economic basis for those lands we simply would not have made those investments, because there was no short-term payoff that could be registered in the Treasury.

Likewise, certain capital investments for campgrounds, trails, roads and bridges are made today even though many of the benefits that justify their construction will not be realized for years into the future, and the benefits that are justified by that investment may be quite different than the initial investment. A road or bridge that will serve 40 or 50 years, the primary use may be for recreation during its period of use, although it may be built for energy or for timber, which raises both the question of how to appropriately amortize those costs as well as how to appropriately allocate.

Those access provisions also provide for fire protection, public access for recreation, and the transportation necessary for future management and utilization of national forest resources. We will explain to you later today where such access is absolutely essential to control insect and disease outbreaks, and without the ability to control insect and disease outbreaks, the alternatives are either to let the forest simply die, or try to use direct control, or chemicals, or some other approach.

The current questions in my view regarding the economics of Federal timber sales have been raised in many cases because the long-term perspective has been largely ignored or set aside in favor of judging economic viability by comparing 1-year costs and 1-year revenues to the Treasury. If you used that type of economics, you would never buy a house or you probably would never buy a car, if you had to amortize the entire cost in the first year against the revenue for that year.

It should be noted that Forest Service timber sales many times are one vehicle used to achieve other resource management objectives. For example, timber sales are used broadly to improve wildlife habitat, to maintain long-term health of the forest, to maintain favorable watershed conditions, to reduce insect and disease problems, to enhance future timber productivity by capturing mortality, and to replace stagnant stands with young, vigorous growth.

Now in doing that it is quite often that you will have on a ranger district several sales that are very positive, that yield good cash flow, and some that are negative. The overall result may be positive. I would like to emphasize up front that overall the timber sale program on national forests makes money, so it's not a question of whether the total program makes money, it's a question of whether some individual sales make money.

Let me give you a couple of statistics that would indicate that. In fiscal year 1984 the cost of the timber sale program on the national forests, excluding the long-term investment of appropriated fund construction, was $303.8 million, and the value of the timber sold was $701 million. If you look at a period of time going from 1978 to 1984, the results are even more favorable. During that period our cost was $3.5 billion for timber sales. The value of that timber sold was $9 billion. The income during that period or the revenue was $5 billion. The reason for that is that, with the downswing in the market, a lot of timber sold during that period will be cut in subsequent years, so you have to compare the cost of putting up that particular group of timber sales with the revenue from those sales.

The timber management activities do other things, such as create employment and help stabilize or develop local and regional economics. Without an adequate supply of national forest timber, lumber and wood product prices would rise significantly, costing consumers considerably more for housing as well as other wood-related products. This would lead to major increases in consumer expenditures, increased lumber imports, and have some impact on the balance of trade.

It is difficult to attribute such benefits to individual timber sales. For example, a community that may have both recreation and timber may have a good year-round situation, because recreation tends to be quite seasonal. That employment base that tends to be undergirded by that combination is very difficult to express in an annual cash-flow situation.

I would like to now draw your attention to a couple of examples. Rather than for me to try to explain those examples to you, and being unable maybe to answer some of your questions, we have a couple of our field people to help present those. First, I would like to present an example from the Lolo National Forest in the State of Montana, and that will be presented by Forest Hayes, the district ranger, and Fred Stewart, the forest economist.

I might tell you a little bit about these two individuals. Forest Hayes, the district ranger, has a B.S. in forestry. Fred Stewart, the forest economist, has a B.A. in wildlife biology and a Ph.D. in natural resources economics. They are the people on the ground that are evaluating whether we ought to make these particular sales or not.

Mr. WHITLEY. Thank you. We will be glad to hear from you at this time.

STATEMENT OF FOREST HAYES, DISTRICT RANGER, NINE MILE RANGER DISTRICT, LOLO NATIONAL FOREST

Mr. HAYES. Mr. Chairman, just by way of a short introduction to start out, as Chief Peterson said, I am Forest Hayes. I am the district ranger on the Nine Mile Ranger District, Lolo National Forest, in extreme western Montana.

The project that we are going to present to you this morning is an actual timber sale project on the Nine Mile District. It's one that we have been doing the environmental assessment on for approximately the last year and, as part of the environmental assessment process which we're going through, we went through an economic modeling process. We have modeled the timber and the road situation on the area over a five-decade, 50-year period of time. The model which we have used for this process is the Lolo National Forest timber sale economic model.

If we go from that, we move directly into the area which we're dealing with. Here is the State of Montana. Missoula, MT, is right here in the extreme west central part of Montana. The Lolo National Forest is in this area here. The Nine Mile District is just west of Missoula at this point, and the project area—the Deer Peak area which we're talking about, the Deer Peak timber sale—lies in this little box here.

A little closer location for it on the Nine Mile District, here would be the Deer Peak area. Just to the north of the Deer Peak area is Interstate 90, the highway, and the Clark Fork River, a major river in our area. Just to the south of the project area is Highway No. 12, and Lolo Pass on the divide between Montana and Idaho would be right here.

This brings us down a little closer. This is a map of the Lolo National Forest. Here is Missoula, again, on the map. Here is the Nine Mile District which lies in this area right here. On the Lolo National Forest, the Lolo National Forest is approximately 2.1 million acres. Of that 2.1 million acres, 360,000 of those acres are on the Nine Mile Ranger District. In addition, on the Nine Mile Ranger District there is approximately 140,000 acres of private land within the administrative boundaries of the district. Much of that land is industrial, private industrial forest land.

As we move on a little closer to the project area, we're getting into a closeup of it here. This is the same area which was in green on the last chart. This black boundary that runs around the area here delineates the edge, this edge of it delineates the project area which we're dealing with. The project area that we have done the analysis on is approximately 9,000 acres. On this map we have the existing road system which is in place at this time on the land. It's on both the national forest land and on this shaded land here, these areas here, which is the private industrial forest land that is within and adjacent to the area. We have some scattered areas of national forest land in these areas here within the project area.

Now if we could draw your attention to the photographs, these are very representative of the Deer Peak area which we're dealing with. The first photograph we have in here or the first two photographs basically give you kind of an overall view of what the area looks like. It is basically nonspectacular scenery for western Montana. There is nothing extremely unique about it. There are no rocky crags or anything of that type on the area. It's basically steep, timber-covered forest land.

Some of the things you can see in it, there is a difference in age classes of timber. As you move on to this photograph here, it shows it quite well. You have young timber in the foreground and you have some old timber here in the background. There in the midground there is young timber again, and you can again see some old timber in the background.

As we move into a closeup, here this is a closeup of some of the mature timber within the project area, directly in the area. As you will note, on this tree right here about a third of the way down from the top there is an indication of fungus, and the fungus is an organism within the tree. That indicates that that tree is quite old and decadent, in need of harvest.

As we move on to the next photograph we see some of the same things again. We get a difference in age classes as we look through. We can see several lines in the timber on the photograph in the background. Those represent the different age classes.

If we move into this photograph, we have kind of a skylighted shot of a mature tree here on the edge. We have some areas in the background where we can see different sizes of trees. Right in the foreground of the photo there are several treetops that are sticking up that are spike tops, and those are tops that have been defoliated by western spruce budworm in the last few years.

As we move on to this photograph we see some of the same things again. We see the mixture of old and young timber age classes. We see the same thing in the last photograph that we're dealing with, and this mixture of age classes is the result of past fire history in the area. The area is basically a mosaic of timber that has been created by past wildfires, so the area is not the same timber type all over, it's not the species all over.

Some of the things that are furnished, you might say some of the other commodities that are furnished by this area, of course it furnishes large quantities of clean, clear water coming off of it, and in our area some things that are very important, it furnishes a very important elk habitat. This area is locally known as a good place to hunt elk, so one of the other things that we have in the area is a big game habitat, and big game in our part of western Montana is basically the elk.

As we go on into the area a little deeper, here we have a cover of the proposed national forest management plan for the Lolo National Forest, and from that we have the management emphases for the specific area we are dealing with, for the Deer Peak area, from the national forest plan. The national forest plan provides that we are to maintain and provide clean water and stable streams from this project area. We are also to provide from the project area healthy stands of commercial timber. We are also to provide for big game hunting, elk hunting, and other forms of outdoor recreation in the area and, of course, to go along with the hunting that we have, we are to provide for the big game habitat which, as I said, in this area it's primarily elk. These are the emphases that we deal with in the forest plan and deal with specifically on the ground in this project area.

As we move on to a closeup of the project area that we're dealing with, and if we can back up, this goes from the green spot on the map to the area in the photographs that we had, and this is the same area again on a larger scale map. This map represents the specific proposal which we are planning to implement. This is the Deer Peak timber sale project.

Some of the things that are on this, if you remember from the other map, we have the existing road system that is in place. It starts in here, comes up through the private land, comes on around, and then there is a road that runs around the entire top of the area here and off the map, a major road in this area, some other roads coming in here, and some existing roads in here, so the solid lines are the existing roads. The dotted lines we have in areas such as this here represent the roads which we propose to build in this project.

The green area which is on the map represents the treatment units which we propose to treat in our entry into this area. The treatment in these would be through a mixture of even-age silvacultural management systems.

As we go on with this we can see that this area, the green areas that we have, are dispersed well over this large, 9,000-acre area which we have done the analysis on. There are several reasons that these areas are dispersed over the area. One of the first reasons that we deal with goes back to the fire history of the area and the mosaic of the young stands and the old stands which we have in the area at present, so one of the reasons we have this dispersion of treatment units is that is the way the timber has grown in the past. The timber is in patches of old growth and it's in patches of young growth.

Another reason for dispersion in this way is that in some areas we wanted to avoid complete harvesting of the mature timber. Even though all the timber in the headwater of one of these small streams would be mature at this time and could be available for harvest, we want to avoid harvesting the complete headwaters of one of these streams at any one time. That is some of the things we deal with there.

Another thing, if we back up to the elk habitat that we have, the elk is a big-game animal that needs security areas to go into while the project activities in the area are going on. These areas, such as this, this, this and this, need rather large security areas or hiding areas, if you would, for the big-game animals to go into while the project activities are going on in the area or also while they are being hunted.

So that's basically some of the reasons that we have an area of this type. Now the map that you have in front of you here represents what we propose to do in this project area over a 20-year period of time, two decades. As we were planning and coming down to this proposed project, we considered the water for the entire area, the runoff, the quality of the water that was going to occur over a long period of time. We considered the impacts on the big-game habitat over a long period of time. We have planned where we think the roads should go for the entire area over a 50-year period, and things of that type all went into it.

Of course, this type of planning costs more than just going in and planning for this first single entry. We have with us here Dr. Fred Stewart, who is our forest economist in the Lolo National Forest. Dr. Stewart will discuss with you the costs and the way that they have been handled in this Lolo economic timber sale analysis.

Mr. WHITLEY. Thank you, Mr. Hayes.

We will hear from you at this time, Dr. Stewart.

STATEMENT OF FRED STEWART, FOREST ECONOMIST, LOLO NATIONAL FOREST

Mr. STEWART. Good morning. I am Fred Stewart, the forest economist on the Lolo National Forest.

The type of economic analysis that I'm going to talk about is an example of the type of analysis that we've been doing on the forest for almost 4 years now. We have been doing it on selected sales, and our anticipation is that within 2 years we will have this type of analysis on all of our sales. You see, this type of a timber sale begins in effort as much as 10 years prior to the time that we actually sell the sale, so currently on the forest we have a large number of sales that are in the process of being prepared.

In terms of the components that we'll be looking at, the first item, timber value, is our best estimate of the cash returns to the Government from the sale of timber. As Forest mentioned, in this particular area it's primarily a timber-growing area, and we don't have included any values other than timber for this example.

In terms of our costs, the first item is timber sale cost. That includes the cost to the Government of preparing and administering this sale, doing the silvicultural exams and so on, the prework. Support costs would include the cost of the wildlife biologist, the fisheries biologist, the hydrologist, the soil scientist, the different specialists that are involved in preparing these sales to manage for the other resources.

Other timber costs, as you can see they're quite significant, and they refer to the reforestation or getting new trees back on the site as well as taking care of the slash, limbs, and other unmerchantable material that remains after timber harvest.

Included in road costs are both construction and reconstruction costs for the roads, as well as our agency costs for engineering and putting the road package together.

When you look at the total of all of these costs—and again, now, included in these costs are many costs that contribute to nontimber outputs but only the timber values are included in this—the net of the costs from the timber values shows a negative return in this particular case for the first decade of minus $1.4 million. If you were to look only at the first decade, this first entry, then, you would have to conclude that the costs exceed the returns.

However, this is a real typical example in our part of the country where we have significant road cost, $1.8 million here to put a road system on the ground so that we can manage the timber. The thing is, though, that it's very important to remember that this system will be in place for use over subsequent decades.

Now there's nothing magic about five decades. It's our best estimate of the length of time that we'll be able to utilize that road system. It will provide access for the entire area, and it's our estimate that after that five decades we'll have to come back in and do some major reconstruction, but we'll be able to utilize that main facility during that time frame, so we feel it's very important, then, to look at what happens in the subsequent entries over time.

You will notice in a net sense that it changes from negative in the first decade to positive in each of the subsequent decades. By the fourth decade the total net returns will have offset this initial negative value, so in a sense we begin to see a return on our investment in the roads and in all of these other costs as well. So in this particular example, then, we can say that managing for timber on the first decade alone would show a negative return but, looked at in a more appropriate timeframe over the length of time that we'll be able to utilize our facilities, it shows a positive return.

Economists have a way of collapsing cost over time, if you will, and we call it discounting. It makes it much easier to compare different alternatives. The next chart that I will show has discounted values but, before we get to that, in the Deer Peak area we looked at three different alternatives. We looked at the present value or the discounted value of the costs and the returns for those three alternatives. The line officer then was able to see what the costs were of managing under these three different alternatives. Each one of those alternatives was consistent with the management that forest outlined as being responsive to the forest plan.

In an attempt to give you an idea of what it costs us to manage according to the forest plan, we put together another alternative which we're calling a single purpose alternative, and the single purpose in this case is for timber. If we were to manage and we were concerned about just managing for timber and just trying to generate revenue, this is the type of an alternative that we would put together. Again, it's not consistent with the National Forest Management Act or the way we manage our forests, but we put it together as an example of what those costs are to manage for multiple resources instead of a single resource.

Now, again, we've taken five decades' worth of information and we have collapsed it into a single timeframe, and we call that a present value or a discounted value. This is the information for the chart that I just showed you when we collapse it into one timeframe. The present value of all of those timber benefits is $8.7 million. The present value of all the costs is $8.1 million, for a net of $570,000 for putting this area under management for that five-decade timeframe.

The other alternative that I was talking about, the single-purpose type of management that just looks at timber management, has a much higher value of $12.9 million. Now both alternatives harvest the same timber. The reason for the higher value is that if you were to manage in this way, you would go in and you would harvest all of the mature timber in the first decade, and that way you don't have to discount those values back over time. You capture that value immediately.

The costs are very much the same because you have those heavy up front road costs no matter how you do it. The net value in this case is almost $4.5 million, so the difference between these two in terms of a net is very much an expression of what the costs are of managing for multiple resources. We give up something less than $4 million to manage for multiple resources.

What are some of those multiple resources, now, that we're managing for? If we were to manage in this type of a manner, harvesting all of the mature timber in the first entry, our biologist's best estimate is that we would lose the big game habitat from 90 percent of that area for the first decade. It would start to recover in later decades but it would have a significant impact on elk habitat. In terms of water, we would not be able to maintain water quality in that area. In terms of productivity, it's our best estimate that on 15 percent of the land area we would lose 60 percent of the productivity. There is a thin soil layer on top, and when that is eroded away the productivity of that land is gone for an extended period of time. That's an example of some of the things that we give up, that we would have to give up in order to manage for a single purpose.

Again, in summary, by managing in the manner that we talk about, which means that we appear to lose money in the first decade but then we gain it back over an extended period of time, we find that we are able to maintain our water quality in the riparian environment. We are able to keep all of our water quality to meet State standards.

We are able to maintain our elk habitat at our current levels. We don't lose that by going in and managing. We are able to maintain a quality hunting experience. The type of hunting in the area would change from a pack-in type of experience to a walk-in type of experience but we typically—and in this case we would—close the roads so that the hunters aren't driving into the area. There is still security in the area by keeping the roads closed and managing them for that.

We are able to develop a more diverse and healthy forest. As was pictured earlier, there are some areas of disease in this Deer Peak area, and we would end up with a much more healthy stand there by going in and managing that land. We are able to reduce the probability of large forest fires for two reasons: We are able to remove some of the slash or dead material that is in the area now that can contribute to fires, as well as having roads into the area to be able to respond more quickly in case there is a fire in the area.

Finally, we are able to maintain timber related employment by being able to put the area under management. If we were required to show a positive return on initial entry into areas and still manage within the National Forest Management Act, we would be extremely constrained in terms of which areas we could put under management and we would lose much of this timber related employment as a result of that.

That is the end of our presentation. Thank you.

[The prepared statement of Mr. Peterson appears at the conclusion of the hearing.]

Mr. WHITLEY. If I may, Dr. Stewart, a couple of questions. Obviously this has been a management area for a number of years. What is the track record on it insofar as timber sales are concerned?

Mr. STEWART. This area has never been put under management.

Mr. WHITLEY. It has never been put under management?

Mr. STEWART. No, it hasn't.

Mr. WHITLEY. But there have been sales in this area?

Mr. STEWART. No, sir.

Mr. WHITLEY. No sales?

Mr. STEWART. No sales.

Mr. WHITLEY. No sales at all?

Mr. STEWART. In the private land surrounding the area, many of those areas have been harvested, but in this particular area it has not been put under management.

Mr. WHITLEY. Those roads that are shown on the map, were those roads built by the Forest Service?

Mr. STEWART. The existing roads, this particular road that goes around the perimeter is a jeep trail. It's not actually a road. The roads in this area and in this area are on private land, so those have already been built by private entities. The dashed lines coming in through the area are our proposal in terms of the roads that we would build as part of this development area.

Mr. WHITLEY. Suppose you, as your management proposal in this area, said, "To heck with timbering, we're going to leave all the timber in place and just let it be sort of a wilderness or a roadless area." What would be the significant difference in terms of management between that and what you propose now, both in dollars and cents and in the noneconomic benefits involved in the area? You would get all those same benefits except access, wouldn't you?

Mr. STEWART. Well, to a large extent, yes.

Mr. WHITLEY. The one thing you would gain by way of benefits if you didn't leave it a roadless area, by building the roads you can get in better for certain purposes, and you say with quality hunting you don't want to be able to drive a jeep back in there. You want to pack in by horseback anyway.

Mr. STEWART. Or to be able to walk in.

Mr. WHITLEY. Pack in, as you put it, but you say you destroy sort of the quality of the hunt if you can drive up in a jeep and get out and get on a stand somewhere.

Mr. STEWART. Yes, but if you allowed, if you didn't close off the roads and you allowed traffic into the entire area, there would be so much disturbance that the elk——

Mr. WHITLEY. If you weren't going to cut any timber in there——

Mr. MARLENEE. Would the chairman yield for a clarification on that point?

Mr. WHITLEY. Sure.

Mr. MARLENEE. It is the practice, is it not, of the Forest Service to work with the fish and game management officials of the States and when they do, say, access areas with roads, they very carefully manage them so that the roads are closed during those critical times and seasons when they are calving, where disturbance of elk would be detrimental, or during the hunting season so they can maintain the quality. Is that not correct, Dr. Stewart?

Mr. STEWART. Yes, that's true.

Mr. MARLENEE. Thank you, Mr. Chairman.

Mr. WHITLEY. Maybe this question would be better directed to Mr. Hayes, but what is the advantage of building roads in the area? Well, you mentioned fire. Of course, you need access to the timber if the timber is to be cut and removed, but what is the advantage of roads in the area if you're not going to cut and remove timber?

Mr. HAYES. The advantage of roads in the area we're dealing with here, the area that is undeveloped, the first thing that occurs is that it would allow us to get in to a fire that would occur, say on a hot afternoon, on an August afternoon. It would allow us to get in to that fire much quicker with a large number of forces on the ground.

Mr. WHITLEY. Right. Any other advantages?

Mr. HAYES. The other advantages—now you're speaking specifically to roads for other than timber harvest purposes?

Mr. WHITLEY. The roads that you would build or that you would not build. Plan A is what you're talking about over here, the projected five-decade plan for multiple use and removal of timber, et cetera, and the number of roads that would be built, primarily in the first decade, but if those roads are not built except for access for fire, what do you lose?

Mr. HAYES. What do we lose? We would lose, if we were to go for that, we would lose the timber products from the area which we plan to remove from this area over the decade. This represents approximate 16.5 million feet of timber products that we would lose from the area.

Then there is the other thing which Fred spoke of: We will change the type of hunting that we have. Presently we have a hunting area here where people come in, they can get into the area during the season as far as this and they bring horses and set up a horse camp on this old road around the top. Then they hunt down into the area with horses. The area is too steep and too rugged to bring an elk out from somewhere down in here unless you have a horse to bring it out with, so that is one thing. We would change that situation. The situation that would change after we have the development would be that these roads, while they will be gated in an area such as this, the roads furnish good access to walk into the area and hunt, very good access.

Mr. Whitley. Now you're talking about proposed roads now.

Mr. Hayes. Proposed roads, right. These are proposed.

Mr. Whitley. You're saying that if the proposed roads are built, that they would promote quality hunting.

Mr. Hayes. They would promote quality hunting, and in our area—this became a very important part of the national forest recently—if that road was built, there is a lot of dead timber that has been standing along the roads for the last 10, 15, 20, 30 years. Our snags stand for a long time and those are very important. They are fuel wood that people use for heating in the area. That's a very important commodity for the district right now that comes off of it, and for the individual who has his power saw and his pickup to get his fuel wood, he has to have a road.

Mr. Whitley. That's dead timber.

Mr. Hayes. That's dead timber.

Mr. Whitley. You're giving that away to people that will come in and cut it, is that what you're saying?

Mr. Hayes. We're selling it.

Mr. Whitley. You're selling it?

Mr. Hayes. We're selling a firewood permit for personal use.

Mr. Whitley. Right.

Mr. Hayes. We're selling it.

Mr. Marlenee. Would the chairman yield?

So what you're saying is, there are receipts if you can access that dead timber, timber that would otherwise go to waste.

Mr. Hayes. Right. Even without the timber sale, Mr. Marlenee, we would be accessing the dead timber that is close to the road.

Mr. Marlenee. But you do have receipts from the timber sales that are for firewood purposes?

Mr. Hayes. We have receipts——

Mr. Marlenee. For timber, dead timber that is used for firewood purposes?

Mr. Hayes. We have receipts for those.

Mr. Marlenee. I want to emphasize that.

Mr. Hayes. Those are basically what we call a Personal Use Firewood Permit. They are quite small. They are easy to handle.

Mr. Whitley. Well, you have that now.

Mr. Hayes. We have that now.

Mr. Whitley. To the extent that the roads are available and that timber is accessible, you have it now, and if you had more roads, there would be more of it accessible.

Mr. Hayes. There would be much more of it accessed if we had more roads.

Mr. Smith. Would the the gentleman yield on that point, Mr. Chairman? Thank you.

With the $16 million loss, if you don't harvest the timber, how many jobs does that represent in that area.

Mr. Hayes. That represents, the $69 million over the 50-year period for which we modeled the area, that represents between 900 and 1,000 person-years of employment.

Mr. Smith. Thank you.

Mr. Marlenee. Mr. Chairman.

Mr. Whitley. Mr. Marlenee.

Mr. Marlenee. I hate to take the time, but it zeroes in on the point——

Mr. Whitley. It's your State. We want you to take the time. [Laughter.]

Mr. Marlenee. It zeroes in on the question that the chairman asked: What would the loss be if you did not access it?

Mr. Hayes. Right, if we did not access the timber.

Mr. Marlenee. Now let me pose a specific question or two to you. You do have spruce bark beetle which kills the trees in western Montana, a tremendous amount of spruce bark beetle, do we not, in the lodgepole pine?

Mr. Hayes. Right, we have the bark beetle in the lodgepole pine, which is killing tremendous stands, thousands of acres in western Montana.

Mr. Marlenee. And these stands are very thick and very heavy and in most cases 50, 60, 70 feet tall. Is that correct? They are mature——

Mr. Hayes. The ones that get attacked most severely by the bark beetle are the ones that are mature, thick stands, as you described.

Mr. Marlenee. And heavy. Now when this spruce dies and then you have a wind, there is a very heavy windfall that occurs from that, that the timber simply blows down. Is that correct?

Mr. Hayes. That's correct.

Mr. Marlenee. A tremendous hodgepodge, a crisscross, and what we call a timber jungle, a downfall jungle, and that impacts all the trails, does it not?

Mr. Hayes. That doesn't only impact the trails——

Mr. Marlenee. And roads.

Mr. Hayes [continuing]. It makes it just totally impossible for a person to get through.

Mr. Marlenee. It makes it impassible, so is there not a cost involved to the Forest Service of simply leaving that stuff lay? Is there not a cost involved with having to go in and clear some access through those trails?

Mr. Hayes. There is a significant cost, and then again there's something that is probably even more significant, is the risk that goes on——

Mr. Marlenee. Fire?

Mr. Hayes. The fire risk that comes on from that standpoint.

Mr. Marlenee. When you have those heavy downfall or windfall jungles, not man, nor beast, nor anything else is inclined to penetrate those jungles for a habitat, are they?

Mr. Hayes. Those areas become, for all practical purposes, except for the woodpeckers working on the dead snags, they become very limited habitat, especially for big game.

Mr. Marlenee. For elk? Deer?

Mr. Hayes. They exclude elk from the area.

Mr. Marlenee. It detracts terribly from big game management.

Mr. Whitley. An excellent point. Thank you, Mr. Marlenee.

Mr. Huckaby. Mr. Chairman.

Mr. Whitley. Mr. Huckaby.

Mr. Huckaby. One quick question, Mr. Chairman: Do you have some rule-of-thumb figure that you use for new road construction as far as the cost per thousand feet of timber to be extracted? You know, $20 a thousand, $40 a thousand? What does it cost you from the sale where you're building the road for the timber that you're going to be getting out?

Mr. HAYES. It varies greatly, of course, depending upon the timber sale, because in some areas we may not get as much timber from each mile of road that we put in that we do from others. The road cost which we are projecting to occur on this project area, the proposed road cost for these proposed roads on the local roads, which are the roads that are basically the very small roads that go in and just take the timber out of the area, those we're projecting to cost approximately $22,000 a mile.

Mr. HUCKABY. You don't relate it to board feet?

Mr. HAYES. We do relate it to board feet when we make a timber sale appraisal, and in this case if we have—I think our road costs that we are projecting in here, the total cost of roads are approximately $1.2 million. We are removing approximately 16.4 million board feet. I see Fred is poking his calculator.

Mr. STEWART. In this particular case it would be about $30 per thousand, but again that's looking at the timber volume that we remove over the five decades because we're talking approximately 60 million board feet for 45 miles of road.

Mr. HUCKABY. Would you say that this cost is typical in the West where you have a mountainous terrain?

Mr. STEWART. Yes. It runs higher than that at times.

Mr. OLIN. Mr. Chairman.

Mr. WHITLEY. Mr. Olin.

Mr. OLIN. I wanted to ask about your alternate road plan. You mentioned at the end of the talk here the single-purpose management plan whereby I take it you would use those same roads but you would be cutting more timber.

Mr. STEWART. That's correct.

Mr. OLIN. And then you said that wasn't a very good deal because you would be cutting some timber on very poor land, and you figured it would erode and would not regenerate well. You're not really recommending that alternate.

Isn't there a more practical alternate which would involve building this road network maybe in a number of steps over a period of time so you don't have the whole road cost on the front end? You go more than 30 years before you begin to develop a positive cash flow on just the cost of the roads. That really surprised me that that would make sense, as opposed to some other, more practical alternate in which maybe you would make a third of the roads in the first decade and then another third and a third. Isn't there a practical alternate that represents a more real alternate here that would improve your cash-flow?

Mr. STEWART. There are times when you can do that, and it depends a lot on what we call the age class characteristics of the timber that is in the area. If you're dealing in an area that is primarily mature soft timber, if we did the lower section first and came back in 10, or 15, 20 years and did the next part, we're losing our opportunity to manage in this area in terms of mature soft timber. We may not be able to capture that timber, if you will, before it has disease problems or whatever. If it were laid out in a manner that would be conducive to that type of road construction, then we do that. We call it staging our road construction in segments like you're talking about. That's one of the types of analysis that we would typically do.

Mr. OLIN. You're saying that's not possible here?

Mr. STEWART. It would be possible but it would not—it wouldn't be an advantage in this particular case.

Mr. OLIN. Would it show lower cost benefit or higher cost benefit if you did that?

Mr. STEWART. I would suspect that the present net value, which compresses everything into one timeframe, would be lower under that type of an approach because if it's accurate then you are able to put off some of your construction costs, but you may have to put off some of your revenues as well. But you are correct in——

Mr. OLIN. What you're saying sort of surprised me. These forests have been there for a good, long time, I take it, and they are a normal forest, normal age distribution. It's hard to grasp why suddenly it makes sense to come in and try to do the whole thing in an area this big at once, and why you couldn't do it in parts and make it a better economic value.

Mr. MARLENEE. Would the gentleman yield?

Mr. OLIN. Yes, I would.

Mr. MARLENEE. Would you slip the other map up there of the State of Montana onto the board for my good friend, Mr. Olin, and show him the significance of the area in relation to the forest as a whole?

Mr. OLIN. I appreciate the gentleman's point. This is just not a big part of the State——

Mr. MARLENEE. About 9,000 acres managed. That's fine. I just wanted to make my point.

Mr. OLIN. Still, it's an area that they are picking out to manage and it's a good-sized area even though it's a small part of the State.

Mr. PETERSON. Mr. Chairman, if I might, Congressman Olin's question, it's quite true in some cases, you may well stage construction. Now this entry is over a period of 20 years, so it's not being done all at once, but that's one of the reasons we have the economists look at those different alternatives. In this case they felt that for two reasons. One is that some of their more decayed stands, that are most insect/disease infested, are further away, and if you postpone that entry there, you would lose considerable revenue because that's also where the values are.

But you're correct, in many cases we do stage construction in order to reduce road costs on the front end. In fact, in looking at the so-called Black Hills study we're going to look at next, we did look at maybe changing the rate in which we invested money in investment kinds of things, in order to have benefits show up better.

Mr. OLIN. Thank you.

Thank you, Mr. Chairman.

Mr. WHITLEY. I believe you have another example you're going to show us this morning?

Mr. PETERSON. Yes.

Mr. WHITLEY. I believe we'll proceed with that one, in the interest of time, and then members can ask questions both about these two areas and about the situation in general.

Mr. PETERSON. I think I only want to make about two or three points in closing on this one. This area was selected because it shows you an area that it would be possible to manage for short-term profits if timber was your only objective and you could, by cutting very large areas and by not dispersing it for elk and not protecting water values to the extent that we are, you could pick up a lot of revenue in the first decade and therefore show much better present net value.

I might point out that one approach to this drainage that was used in much of western Montana many years ago would simply have been to put roads up each one of those drainages. One of the things that's involved here is going around and coming across the drainages and having considerably less impact on other values.

I happen to know this area personally. I have hunted in the area. I have not been successful but it's good hunting.

But this indicates that in order to look at the question of what's economical, you can't possibly do that in a 1-year snapshot because many of the investments that are made here, the return shows up in an entirely different time period, so you have to look at costs and benefits over time and we believe you have to look at all benefits and all costs. I might point out as part of the forest plan they did look at the roadless area question and what area should be wilderness, and those blue diagrams on here are very large wilderness areas, one of them that's just a little bit over the mountain from here, so there is a considerable opportunity for wilderness experience here, and then we have the big Rattlesnake National Recreation Area immediately north of Missoula.

Mr. WHITLEY. The Rattlesnake Recreation Area?

Mr. PETERSON. And there are even a few rattlesnakes there.

Mr. WHITLEY. We won't go to that one.

Mr. PETERSON. This is not an area that's highly attractive except for hunting. It's primarily an area where the recreation is hunting.

Let me move on to present another, even a little more dramatic example of the problem of what do you do if you want to maintain a healthy forest and you look at the options available to you, including the harvest of timber as one vehicle. The case that I'm going to present is really to accomplish other objectives. You would not really do it if you were looking at just timber harvest as a single entity.

We have a couple of videos here that will help us present this.

[Following is the text of a videotape presentation:]

Colorado's lodgepole pine forests provide a variety of benefits, and perhaps the most notable is recreation. With approximately 20 million tourists visiting the high country each year, several towns and counties are economically dependent on the recreation industry.

A green, healthy forest does not only attract visitors and thereby stimulate local economies, but also increases land values and the esthetic appeal of mountain communities and subdivisions. The forests are also home to a variety of wildlife.

Colorado's high country is the source of four major river drainages that supply water to the arid West. The forest, along with the deep snow pack, assures a consistent flow of high-quality water for recreational, agricultural, industrial, and municipal uses, but the lodgepole pine forest is currently facing a problem which threatens all these values and benefits.

Too much of Colorado's lodgepole pine is not as healthy as it appears. Although the forest is green, many trees are old, overcrowded, and slow-growing. The forest lacks plant and animal diversity. Many of the lodgepole pine stands in Colorado originated following fires, logging, and mining activities during the period from 1875 to 1900. As a result, these stands are fairly uniform in age and size. This situation is made worse by the fact that the trees are being weakened by overcrowding and, worst of all, the trees have reached a size and age where they provide a perfect breeding ground for a growing mountain pine beetle infestation.

Beetles are always present in the lodgepole pine ecosystem. However, when they reach epidemic proportions, as they have in much of Colorado's lodgepole pine, they are symptomatic of the more basic problem: unhealthy lodgepole pine stands. Many of the lodgepole pine stands are also infested with dwarf mistletoe, a parasite which stunts and deforms affected trees.

The mountain pine beetle has a 1-year life cycle which begins with flight to new host trees during July and August. The beetle prefers to attack large diameter—8 inches or more at breast height—and older pines, 80 years and older. Under epidemic conditions, enough beetles emerge from a single tree to kill two or three more live green trees. Most often the pattern of attack is characterized by clusters or groups of dead trees which grow larger each year until entire hillsides have turned reddish-brown.

Allowed to run its course, the mountain pine beetle will infest large expanses of old lodgepole pine, especially where all the trees are about the same age. Unfortunately, this even-aged forest condition is common in our lodgepole pine forests today. Tinder-dry, beetle killed trees would eventually fuel a massive wildfire, and thus begin a natural process of regeneration, but the human demand to live, work, and play in and around the forest creates a conflict. This natural process of fire cleansing and regenerating the forest can be catastrophic. Sooner or later houses or life would be lost. One way or another, beautiful scenery, some wildlife habitat and watershed will be threatened if the condition of the forest is not improved.

There are several methods for controlling the beetle. Until 1984 it was common to cut down infested trees, stack them in some cases, and then spray them with either lindane or ethylene dibromide. However, where direct treatment of infested trees is needed, foresters recommend chipping, peeling, burning, or removing infested trees to designated safe storage sites. These direct control techniques must be completed before the bugs begin to fly.

Directly treating infested trees is not feasible or desirable in all cases. Small, privately owned acreages or highly visible recreation sites are common areas for direct control treatments. Wherever direct control methods are implemented, 80 percent or more of the infested trees in the area must be treated for the efforts to be effective. This requires cooperation and commitment from all landowners in a designated control area.

In heavily-infested areas, individual trees that have not been infested can be sprayed with carbaryl. This prevents beetle attack, but its high cost means it is realistic only for high-value trees such as those in subdivisions and recreation areas. Direct control treatments and preventive spraying are appropriate control measures, depending on the landowners' or managers' objectives, but are only temporary solutions. The long-term solution to mountain pine beetle outbreaks, as well as mistletoe and other insect and disease outbreaks, is to change the forest's condition.

To create and maintain a healthy forest, as well as an attractive national playground, Colorado's lodgepole pine forest must be managed. Simply put, forest management is the alteration of forest stands to achieve some goal. Proper and timely harvesting of trees, along with periodic thinning and planning, stimulates the natural process of regeneration while protecting the values and benefits of the forest.

One effective way to artificially regenerate a stand of lodgepole pine and to control dwarf mistletoe is to patch clearcut it by removing all trees in a given area. The results of this practice are the same as when fire is allowed to occur. The size and location of patch cuts will depend on specific site characteristics. In some cases clearcut patches will be laid out to encourage the sprouting and enlargement of existing aspen stands. Wherever patch cuts occur, they will be designed to preserve the appearance of the forest.

On public lands a primary goal of forest management is maintaining or enhancing recreational and visual qualities, as well as regenerating stagnant stands. This objective can be met by setting up a series of harvests over a 20- to 30-year period. This type of harvesting schedule will help establish an insect- and disease-resistant forest by creating a mosaic of different age trees and, where capable, a diversity of species.

The most common and cost-effective methods of accomplishing these goals are commercial timber harvests and public firewood gathering. Some areas will also be thinned and planted. In order to practice forest management, foresters and loggers must often build roads or gain access to them to cut and remove trees, and in some cases leave slash or piles of broken branches. While these consequences of forest management are often criticized as being offensive, they are necessary steps in the process of improving the forest.

Experienced foresters and conscientious loggers minimize the visual and other short-term impacts through careful planning and execution of a harvest. Roads can be closed after use, and located in strategic areas that will not disrupt wildlife or primitive, nonmotorized recreational experiences. Clearcuts in small patches can be designed to fit in with the natural topography and vegetation. A new USDA/Forest Service computer graphic system allows foresters to evaluate the visual impacts of a proposed timber harvest or road construction in the planning stage rather than after they have been implemented.

These short-term consequences of forest management on public lands are a small price to pay for the benefits all receive. Small, irregular patch clearcuts will rapidly regenerate, creating a diversity of food and cover for wildlife. These cleared areas will also create scenic vistas along hiking and skiing trails where before were dark, dreary corridors. Harvesting old trees and allowing new ones to grow will keep the hillsides green, rather than letting them turn reddish brown.

The benefits of forest management will also stimulate the local economy by attracting forest visitors as well as a wood-utilizing industry. That's right. In order to accomplish forest management in Colorado, it's necessary to have a timber industry in place because it allows the needed work to be done in an economical manner. Without industry, landowners and agencies responsible for managing public lands would probably have to pay a contractor to cut and remove trees. With a viable industry, however, landowners and agencies can receive income from the byproducts of forest management. To attract and sustain a responsible forest industry, businesses must be assured of a long-term supply of raw materials. This should not be a problem in Colorado, since much of the lodgepole pine is in need of management.

On large tracts of private land, the owner may manage his forest in much the same way as foresters manage public lands. However, where a private landowner has only one or two acres of forested land, his management is likely to be different from the forest landowner. The homeowner and small landowner is generally interested in protecting the trees he has. However, some trees may need to be cut to improve the forest as well as increase the land value. According to a recent study at Colorado State University, too many trees on a lot decreases the land value. Therefore, landowners should work with foresters in determining practices that will not only improve the forest but protect land value and esthetics as well. On many small or private lots older trees can be thinned out, leaving the younger, more vigorous trees. In addition, seedlings can be planted and a new generation of trees started.

Like Colorado's lodgepole pine forests, forest management has much to offer, including increased land values, visual quality, wildlife habitat diversity, and watershed protection, but it will not be successful unless some key partnerships are established. Forest visitors and users, homeowners, public officials, conservation groups, and the media need to understand, participate in, and support forest management. This includes realizing and accepting that roads must be built, trees cut, and a timber industry developed. Management projects represent a unique opportunity for various interest groups and agencies, all with a stake in the forest condition, to participate in a program that will benefit everyone.

[Videotape presentation ends.]

Mr. PETERSON. Mr. Chairman, there is about a 1-minute additional visual that is coming up, and then we'll be through with that. This project has received national attention because of the high recreation use in that high country, that includes three counties in Colorado that are cooperators on this project. Before we did it this way, we were spending lots of money on a losing battle against the insects.

Mr. Chairman, with your permission, let me proceed to introduce Terry Skorheim, who is the district ranger on the Dillon Ranger District in the White River National Forest, who—interestingly enough for that area—has a B.S. in outdoor recreation, which is an important activity in that area.

Mr. WHITLEY. Before you do that, Mr. Peterson, Mr. Huckaby has to leave, I understand, and he has got a question or two he would like to ask, and so I believe before we do that I'll recognize Mr. Huckaby.

Mr. **Huckaby**. Thank you, Mr. Chairman.

Mr. Peterson, since the subject at hand now is Colorado, could you explain to the subcommittee the Forest Service practice regarding aspen, why we clearcut, how much we lose each year in this process? I understand we only get $5 a thousand. It seems to me that we lose $125 for every truckload of aspen that we haul out.

Mr. **Peterson**. I can see that the Congressman would profit by a trip out there to look at that very carefully, particularly in the fall when it's a beautiful color, but aspen is a very short-life tree. It grows up, becomes mature in about 40 or 50 years, and then unless it's turned over basically by fire, or disturbance, or something else, encroachment of other species takes it out. So basically if you are going to keep aspen in Colorado, you are either going to have to do it by fire, by natural disturbance, or by periodic harvest. The reason you harvest aspen is basically to get sprouts on the ground for wildlife. It's a very, very prized wildlife food.

Now over a long period of time we used to try to sell—and we still do—sell aspen for firewood—it's not very good firewood—and for fenceposts—it's not a very good fencepost—but anyway we sold a little bit of aspen for those purposes. It is good for some of the new methods of manufacturing things that are made out of flakes, oriented strandboard, this type of thing, so we're presently trying to develop some type of industrial use for aspen, purely so it can be regenerated primarily for wildlife and recreation, not as a primary timber resource because it will not be a primary timber resource. The question is really whether you would like to perpetuate the aspen in Colorado. That's the root question you're starting with.

Mr. **Huckaby**. Aren't you truly losing a lot of money by hauling out the aspen? I mean, we're getting $5 a thousand, that's the going rate. Rather than trying to develop new markets for aspen in a period when we desperately need to save dollars, isn't there a better way to manage the forest than to sell it?

Mr. **Peterson**. We could leave it lay on the ground, which is what we used to do when we did it just for wildlife purposes, we cut it down just for wildlife purposes. We could just leave it lay on the ground and not get any money for it. That's the other alternative that we used to follow.

Mr. **Huckaby**. Have you considered this, or burning it, or anything rather than the massive road damage that we're doing in areas in Colorado and——

Mr. **Peterson**. Sure. I would suggest that I would be glad to show you some of those areas in person, because we're not doing massive road damage. What we're doing is a very careful stewardship of the aspen. That's our plan. We do in places, we have just cut aspen. We have burned aspen, too, to regenerate it. These are all tools and we're still doing some of that, and those are some of the things we look at in forest plans. If it's too costly to utilize the aspen, I mean if it's more economical to go at it some other way, we'll use that approach.

We don't just have a program to go in and cut all kinds of aspen in Colorado regardless of the cost. That's not our proposal at all. The forest plans very carefully look at the alternative of doing nothing to the aspen, of regenerating by fire or other purposes, or utilizing it for various purposes, and those alternatives are laid out in the forest plan, so we have to look at those options in a very specific way to know what we ought to do.

I think the people that have now gone out and looked at the aspen proposal and understand it, generally support the very careful approach that we're taking to aspen management. It's a very conservative approach.

Mr. **Huckaby**. Mr. Chairman, I would like to ask if it is possible, if Mr. Peterson could provide the subcommittee with the economics of this. I know 10-year plans exist in the forests out there for the acreage that you're going to cut. How much is this costing the Government? I think we all recognize that it's a cost versus the various tradeoffs and the various alternatives.

Mr. **Peterson**. What I would like to provide you would be the forest plan that shows the various alternatives and shows the economics of those alternatives, if that would be satisfactory to you, the actual forest plan. Then we have a separate analysis of the aspen program, and we will provide you with both of them. We will be happy to.

Mr. **Whitley**. We would appreciate being furnished with that material, Mr. Peterson.

[The forest plan and additional material are held in the subcommittee files.]

Mr. **Whitley**. Proceed, Mr. Peterson.

Mr. **Peterson**. Are we ready to go now?

I think we should go ahead with Terry Skorheim, who will give us the maps and so on and will present just basically the alternatives that they looked at there.

STATEMENT OF TERRY SKORHEIM, DISTRICT RANGER, DILLON RANGER DISTRICT, WHITE RIVER NATIONAL FOREST

Mr. **Skorheim**. Mr. Chairman, I am Terry Skorheim. I am district ranger on the Dillon Ranger District, which is located on the White River National Forest. That is in central Colorado. To orient you to the area, the Denver metropolitan area is in central Colorado, approximately 1.5 million people. To the west of there are the Rocky Mountains of Colorado. The green that you see in the map and the yellow represent the national forest land in Colorado; the blue, National Park Service administered lands. This is Rocky Mountain National Park. This red area outlined is the Dillon Ranger District.

We have an enlargement of the ranger district. These are the primary things that we are noted for at Dillon. Recreation: We have a major reservoir on the north end of the district. This is primarily built in conjunction with transmountain water diversion for agricultural purposes. We have Dillon Reservoir, which is the major west slope water storage for the metropolitan area of Denver. The project area that we'll be talking about later; the towns of Frisco and Breckenridge, to orient you, and these will be shown on later maps. Interstate 70 runs right through the middle of the district.

The district is approximately 350,000 acres of national forest land, about 70 miles west of Denver, right on the interstate highway. As I said, 1.5 million people in the Denver metropolitan area. We are close to 11 major international ski areas. The Vail area is 10 miles west of the border of my district. The Aspen ski areas are about a 2-hour drive, also to the west. The district itself has the Copper Mountain ski area, the Breckenridge ski area, the Keystone ski area, and also the Arapahoe Basin ski area which is part of the Keystone ski complex. Each of those ski areas, the major ones—Keystone, Breckenridge, and Copper Mountain—have the capacity of serving about 9,000 skiers at one time; 25 percent of the ski visits that occur on national forest land occur on the White River National Forest which the Dillon District is part of. Of that 25 percent, about 40 percent—or 10 percent of the national total—occurs on the Dillon Ranger District. The fees that are derived from these recreation uses that occur on national forest land exceed $1 million annually just on the Dillon District, and that's about three times my annual budget.

A resort community noted for its scenic beauty, recreation opportunities, both winter and summer, in the summer oriented around the water-based recreation, camping, fishing, hunting, hiking. We also have about 70,000 acres of the Eagle's Nest Wilderness on the district. All of this area, the people come to the area because of the recreation opportunities, because of the scenic beauty. Right now, as was depicted in the video that you saw, it's all in a forested setting, primarily lodgepole pine, and that's currently being threatened. Our stands are the result of logging and fires that occurred 100 to 150 years ago, so we have uniform-age stands 100 to 150 years old.

We have done a very good job of fire prevention. We have gone out and put the fires out, and we have not instituted on much of this district very much timber management or vegetation management, so we do have large, vast acreages of overmature lodgepole pine. I think we have a photograph here, a blowup of this bottom photograph that kind of depicts some of the problems that we're facing, what the area looks like. That photograph was taken near the Blue River Campground in this vicinity on the map.

I'm not sure if I mentioned the total amount of recreation use. We have about 2.5 million visitors who come to us in the winter at the ski areas and we have another 1.5 million visit the national forest in the summer and visit our developed recreation sites and our wilderness area.

The video that we saw I think depicts fairly well some of the benefits of management. In our situation what is depicted on this map in green are the susceptible acres of lodgepole pine. Those susceptible acres are currently being attacked and almost all of this area is under attack at an epidemic stage.

Nature's way, the photograph that you have, results in a very unsightly area, lots of red trees. In an area of high recreational values, that people come to observe the area, that's not what they want to look at. The area residents as well as local elected officials have been very supportive of the high country project. We have been involved with that project for about 4 years now. When we got involved we looked at nature's way, doing nothing, what would the costs be if we let the bugs run their course? We also looked at an intense chemical treatment—what would the costs be and what would the results be? We also locked at a combination of chemical treatment and implementing vegetation management.

With the no-action alternative, the scenario that we come to would be that we would lose approximately a third of the susceptible trees during each of the cycles of mountain pine beetle, up to 100 percent in small, localized areas such as this. The fire hazard associated with this type of activity creates a very high risk of catastrophic fire, which there were some questions asked about some of the benefits or some of the things that would happen if we did nothing in the area. Catastrophic fire, while it may not occur, is a tremendous risk; and if it does occur, the values that would be destroyed in a recreation-intensive area are very great, both on public and on private land.

The direct treatment alternative, which we have initiated some of, is a very high-cost alternative. We have gone in an treated individual trees. If we chose that alternative, some of these trees have cost us up to $14 a tree to do direct treatment on.

The actual alternative that we have selected and are implementing deals with a combination of direct treatment adjacent to high-value lands and adjacent to high development on national forest lands. Direct treatment is a short-term management alternative.

Mr. WHITLEY. Let me interrupt you just 1 minute.

Mr. SKORHEIM. Sure.

Mr. WHITLEY. You showed in the film a while ago, one man standing there with a hand-pressure spray. Why can't you fly over that with an airplane and spray large areas at one time?

Mr. SKORHEIM. Mountain pine beetle is a beetle that attacks the trunk of the tree or the bole of the tree, burrows in under the bark——

Mr. WHITLEY. You don't get him with aerial sprays?

Mr. SKORHEIM. Aerial sprays are not effective.

Mr. WHITLEY. OK. You don't get him with that.

Mr. PETERSON. You could do that but it wouldn't do much good.

Mr. WHITLEY. If you find something that works on that mountain beetle, I wonder if it would work on the southern pine beetle as well? We've got our own strain, so keep us advised.

Mr. PETERSON. We do have active research on both those beetles, trying to find better methods of controlling them, and both of them are very difficult because they actually grow under the bark and——

Mr. WHITLEY. We need to find that fellow that did that research down in Florida, and sterilized all the males and bred them out of existence or something.

Mr. PETERSON. That's one approach we are, in fact, looking at.

Mr. WHITLEY. Go ahead, Mr. Skorheim.

Mr. SKORHEIM. Thank you.

Anyway, we did look at several alternatives. We looked at the costs involved. We looked at our expected best estimate of how effective that treatment would be over a long period of time. There are means available, commercial timber harvesting as well as using the public. In our area immediately adjacent to Denver we have collected up to $70,000 annually through the sale of firewood in individual permits. That wood goes primarily to the Denver area in the back of pickups.

We do have the opportunities and the means available to manage the stands. The end result would be a healthy forest. These three pictures depict an area in 1981 heavily infested with mountain pine beetle, right on I-70, Interstate 70; the same area after it was cut in 1983; and the bottom picture depicts looking back at the interstate from the inside of the same area. This is another area just down the road where the trees were removed during the clearing of Dillon Reservoir, and 20 years later we have a fairly healthy stand established.

Let me go back and say one additional thing about the video. They talked about the high country project, and that is a cooperative project between the Colorado State Forest Service, the U.S. Forest Service, three counties, as Mr. Peterson mentioned—Grand County, Summit County, and Eagle County. The Bureau of Land Management is participating. The National Park Service is participating. private landowners are participating, so we do have a very good cross-section of people who have an interest in managing the forests in the area, who are participating.

This area on the White River National Forest is managed under a final land and resource management plan. That plan was completed and approved in September 1984. The management emphasis for the area we're going to talk about is primarily recreation: downhill skiing opportunities, nordic skiing opportunities—that's cross-country skiing—dispersed recreation—fishing, camping, hiking—scenic quality, the production of water. Primarily the overall goal is to achieve a healthy forest condition. This is what we're trying to do. This is what we want to achieve in our management and this is how we propose to go about it.

The Ophir Mountain area, this area was depicted in orange on one of the original maps: the town of Frisco, the Dillon Reservoir, the Breckenridge ski area. What is depicted on this map in green is the first of three entries into the area. There is approximately 2,000 acres of susceptible lodgepole pine. We would like to treat a third of these acres in each of three entries into the area. This depicts the first entry. It also depicts the road system, in red, that would be necessary to implement management on this area.

The openings average about 15 acres in size, distributed throughout the area. We have tried to minimize the visual impact on the area and tried to maximize water production and recreation opportunities. As I said, the roads are in orange. When we were laying out the roads we looked at how they could be used in winter. Are they winter pathways? Are they winter travelways—primarily concerned with, can they be used by cross-country skiiers? Those roads will be closed, after their use for our management purposes, to motorized vehicles, both winter and summer.

I might mention one other thing. I keep talking about nordic skiing. There is an existing nordic center at the town of Breckenridge which utilizes trails on the national forest. There is an existing nordic center on this parcel of private land in the center of the project area, and there is a nordic center going in in this area, mostly on national forest land, that's being backed by the town of Frisco at this time.

I talked about the visual quality. This is one of the tools that we used to figure out what the area is going to look like. This depicts a computer graphic. This is of the Ophir Mountain area after the first entry. The upper part of the display depicts the individual cutting units as they would be viewed from a popular viewing area in the town of Breckenridge. The lower, artist's depiction shows the same area in a water color. You can track these individual openings that are created back to this map, to give you a little better idea of what it is going to look like to the actual eye.

Once again, we do the same type of economic analysis that was discussed earlier. This is the financial summary of this 7,000-acre area. The timber value relates only to the value of the wood products removed from the area. Timber costs have already been explained; support costs, road costs, total costs. As you can see, in our example the net is negative in most the decade, showing only a positive return in the third decade. That's because we have most of the road system constructed and most of the costs in implementing that road system dealt with in the first two decades.

In the benefits, as shown in the economic summary, high benefits through the forest plan alternative as compared to the no-action alternative. The forest plan alternative considers costs and the economic summary considers costs and benefits over and above the cost as shown on the last chart, dealing with timber only. This includes the value of the wood products as well as the value of water created and recreation, including hunting. Ninety percent of this comes from the timber products and from the water that is generated from the area, the costs primarily associated with preparing the timber sales and the road costs. In the forest plan we have a net benefit.

In the no-action alternative we have low benefits, primarily the removal of wood products around or adjacent to the area where there is an existing road system, and some increase in water. The costs involved include forest fire protection and a minimum level of direct treatment activities immediately adjacent to high-value development. Under this scenario we would have a negative benefit.

Mr. WHITLEY. If I understand, Mr. Skorheim, the main reason for cutting and removing these trees is the pine beetle. You are saying, in effect, if I understand it right, the pine beetle is going to kill these trees anyway——

Mr. SKORHEIM. Right.

Mr. WHITLEY. And then as dead trees they're going to create problems, including a fire hazard.

Mr. SKORHEIM. Right.

Mr. WHITLEY. As they become infected, if you clearcut in selected areas, you get rid of that fire hazard, you prevent the dead trees, you isolate the pine beetle and prevent it spreading into other areas, but primarily you're cutting these trees because of the beetle. Is that right?

Mr. SKORHEIM. The beetle has provided the impetus to cut the trees. It's the threat. The main reason to remove the trees is the threat that it creates to the values that we want to manage the national forest for.

Mr. WHITLEY. If we could develop some way to control this beetle, chemically or otherwise, and the beetle really was not a threat, how would that alter your proposal here? Would you leave those trees alone, or would you still do this cutting, or what?

Mr. **Skorheim**. We would propose to do the cutting. What the beetle has done, it has changed our management emphasis from an area where we don't have problems with beetles, to deal with an immediate problem. If the beetle isn't there to kill the trees when they are mature, something else comes along. Nature has its way of removing those older, mature trees.

Mr. **Whitley**. All right. You're saying that your management strategy here is, as trees mature, clearcut and remove those trees and then they will be replaced by——

Mr. **Skorheim**. By a healthy forest.

Mr. **Whitley**. A healthy stand of trees that will all be coming along together, and that you select these clearcut areas so you don't destroy the esthetics and the other qualities of the area.

Mr. **Skorheim**. That's correct.

Mr. **Whitley**. But the beetle is not really the important thing. You want to cut those trees when they mature, whether they've got beetles in them or not. Is that right?

Mr. **Skorheim**. That's correct, yes.

Mr. **Whitley**. OK.

Mr. **Peterson**. I think we might point out that if you didn't have the beetle, you would have other alternatives here, which might include waiting until you had another way of harvesting the trees, or you might do several other things. So Terry is not saying that if you didn't have the beetle here, you would manage exactly like this. He was just saying that as those trees become overmature, they also have things like dwarf mistletoe, and some nature's form will take out the trees at some point in time, but he's not saying that we would do this exact same thing if we didn't have the beetle.

Mr. **Whitley**. I know that members of the subcommittee have a number of questions they want to direct to all these witnesses. It's a little past noon. How many of the members can come back? Mr. Morrison? Mr. Schuette, can you be back at 1:30 or so?

Mr. **Schuette**. Mr. Chairman, I can be back at 1:30. I have a 2 o'clock ad hoc Budget Committee meeting but you bet I can be back for a half hour, Mr. Chairman.

Mr. **Whitley**. I believe that in the light of time constraints of the members, if the witnesses can come back, that we will adjourn, recess this hearing and return at 1:30. Can all of your people come back, Mr. Peterson, Mr. MacCleery, and Mr. Leonard?

Mr. **Peterson**. We can. It would help us the sooner we could do it, it would help.

Mr. **Whitley**. I didn't understand that.

Mr. **Peterson**. The sooner we could do it would be helpful, the sooner we could come back.

Mr. **Whitley**. Say 1 o'clock rather than 1:30?

Mr. **Peterson**. Yes, sir. That would help us.

Mr. **Whitley**. Mr. Marlenee said 1:30 would be his—we'll do it at 1 o'clock and we'll get who we can, and then as members can come in we'll proceed as best we can, but we'll come back in at 1 o'clock.

[Whereupon, at 12 noon, the subcommittee recessed, to reconvene at 1 p.m., the same day.]

AFTERNOON SESSION

Mr. **Whitley**. The subcommittee will resume its sitting.

During the morning session we completed testimony of Mr. MacCleery, Deputy Assistant Secretary for Natural Resources and Environment, USDA; Mr. Max Peterson, the Chief of the Forest Service; and we had detailed testimony about two particular management areas. At this time, I'm going to recognize members of the subcommittee for questions that they might want to direct to any of those who testified during the morning session, and I'll recognize Mr. Olin.

Mr. **Olin**. Fine. Thank you, Mr. Chairman. I guess I would like to question Mr. Peterson just a bit more. I'm sorry I had to leave right in the middle of the last example, but nevertheless I still have about the same question I had before.

Would you comment a little bit on just this overall question? There has been a lot of confusion on the part of the public and others as to whether the road program is or is not below cost. Certainly overall it is not below cost. Your income year after year from timber sales is higher than the road cost, but do you visualize that you can put this subject to rest a little bit better by coming up with some kind of a more definite scheme of cost allocation so you could track year by year your costs relative to timber harvesting against the timber income, and demonstrate that even though parcel-by-parcel there might be a big variation, that overall you're definitely running the timber operation at a profit?

Mr. **Peterson**. Yes. I don't think it's very hard to demonstrate, even in the very bad economic times we have had recently, that the overall operation operates in the black. We do have a couple of ongoing efforts on two questions. One is how you might allocate cost better, both over time and between different kinds of resources. The other question that's probably equally as difficult or maybe more difficult is how you quantify all the benefits involved and how you relate costs into those benefits.

We have ongoing work with Oregon State University and Resources for the Future. We also have a recent paper done by one of our researchers on the whole subject that I would like to make available to the subcommittee, and particularly to Congressman Olin, that does look at that whole question of how one would analytically look at timber sales.

Mr. **Whitley**. Without objection, it will be admitted.

[The material follows:]

DRAFT

AN ANALYSIS OF THE APPROPRIATENESS OF "BELOW COST" TIMBER SALES ON NATIONAL FORESTS

A Report
for
Policy Analysis
U.S. Forest Service
Washington Office

Prepared
by
J. Greg Jones
Ervin G. Schuster
Intermountain Forest and Range Experiment Station
U.S. Forest Service
Missoula, Montana

February, 1985

EXECUTIVE SUMMARY

Two major reports have recently raised the issue whether or not it is appropriate for the U.S. Forest Service to participate in timber sales where the cost of selling timber exceeds the revenues generated. This report takes the position that the question of appropriateness fundamentally depends on the managerial context within which the Forest Service operates. It further takes the position that below cost timber sales are not necessarily a problem, and proof that something has gone wrong, but rather may be essential to the optimal management of a National Forest.

The body of this report amounts to a series of illustrations showing the role of below cost timber sales within a program of efficient management practices. The methodology used in this report was derived from an ongoing research study designed to develop better analytical procedures by which timber and transportation management can be coordinated within the context of forest plan implementation. A series of computer-based optimization models were developed for two case study areas in Montana. The models were constrained to better assess various aspects of the below cost sales issue. The models constructed were as realistic as possible. National Forest System personnel were involved at all stages of data collection and model building. Results are expressed in the form of answers to questions.

Can constraints placed on timber sales affect the below cost timber sale issue? Yes. Constraints can easily determine whether or not a timber sale returns more revenue that it costs. Two types of constraints were inspected: constraints on management prescriptions and constraints on management strategy. Constraints on prescriptions are typical in the Northern Region and may ultimately cost the Forest Service about $37 per thousand board feet. Management strategy constraints are shown to reduce discounted net revenue by as much as 70 percent, thereby substantially increasing the likelihood of below cost sales.

Do positive discounted net revenues mean that below cost timber sales have been avoided? No. It merely means that for a set of management objectives and restrictions, the overall viability of a project or program is favorable; the total program has positive net revenue. Analyses show that a negative cash flow for an individual sale or for a specific time period within the program can be consistent with a management strategy that results in maximum discounted net revenues. Analyses also show that even when cash flows for all time periods are positive, the cash flow for an individual timber sale can be negative, with no adverse effects on overall program viability.

Does the analytical perspective affect below cost timber sale conclusions? Yes, and in a host of ways. This report only assessed three: (1) Analysis results show that if 25% Fund payments are treated as a cost, discounted net revenues can be reduced by as much as three-fourths and change from positive to negative; it also shows that including these payments as costs can change otherwise positive cash flows, for a given time period, to negative cash flows. (2) Analysis results showed that inclusion of recreation benefits can increase discounted net values by several hundred percent; in the cases studied, however, the inclusion of recreation values were insufficient to change a negative value flow for a time period into a positive flow. (3) Finally, analysis results showed the consequences of approximating an "industry" solution. This was accomplished by relaxing constraints that gave rise to a negative revenue flow. In one of the study areas the negative flow was reduced and in the other case eliminated.

TABLE OF CONTENTS

Page

Executive Summary.. i

Introduction.. 1

Methods Used.. 5

Link to ATP Research.. 5

Study Areas... 7

Information and Data Used... 8

Models Built.. 13

Analysis Results.. 17

Can Constraints Placed on Timbersales Affect BCTS?.................... 18

Does a Positive DNR Mean that BCTS Have Been Avoided?.................. 23

Does the Analytical Perspective Affect BCTS Conclusions?............... 27

Discussion.. 35

References.. 38

LIST OF FIGURES

Figure 1. Dimensions that characterize an organization.................. 4a

Figure 2. The inverted cone of management direction..................... 5a

Figure 3. Location of study areas in western Montana..................... 7a

Figure 4. Panel A. Cutting unit boundaries for Twin Rocks area.......... 9a
Panel B. Cutting unit boundaries for Copeland Creek area...... 9b

Figure 5. Saturated transportation network for Twin Rocks area........... 10a

Figure 6. Twin Rocks area solution: maximum DNR with adjacency, sediment, and lower limit timber harvest constraints..................... 17a

Figure 7. Discounted net revenues associated with constraints on Twin Rocks and Copeland Creek areas.................................. 20a

Figure 8. Twin Rocks area solution: maximum DNR with lower limit timber harvest constraints; no adjacency constraints................. 33a

INTRODUCTION

During the Spring of 1984, two major reports were issued that could have a profound and lasting effect on policies and procedures of the U.S. Forest Service and management activities within the National Forest System. The reports have already prompted controversy, debate, analyses, and responses, some of which have even been positive and constructive. The reports to which reference is made were prepared by the General Accounting Office (1984) and the Congressional Research Service (1984). The point raised in these reports has become known as the Below Cost Timber Sale (BCTS) issue. The reports focus on notions of profit and loss, revenues and costs -- concepts that go to the heart of defining what kind of an agency the Forest Service is supposed to be.

All weasel words and qualifiers aside, the central theme of these reports seems to be: the Forest Service has a problem -- it is selling timber for less than what it costs to develop and administer the timber sale; if the agency were doing its job correctly these situations would not occur. Obvious implications include waste and mismanagement. Criticism over timber sale costs and revenues is hardly new. For years, some critics have argued not only that timber receipts should cover all sale-related costs but also cover all other accumulated costs incurred over the decades prior to the sale -- cultural treatments, fire protection, and the like. In fact, past controversies, such as "timber-mining", are frequently rooted in the quest for the proper way to think about and analyze the economics of timber management within the setting of overall forest management. The quest may be unending, if for no other reason that the managerial context within which the National Forest System operates is constantly changing. The objectives and rules of the game are not static. The way an organization does business depends on that context. The Forest Service certainly changed its management posture between pre and post NFMA, pre and post

RPA, pre and post NEPA, pre and post MUSY. There are no absolutes. There is no hypothetical, ultimate standard of performance. An agency and its procedures must be judged on the basis of the existing managerial context.

Official and unofficial reaction to the BCTS issue has been wide-ranging, frequently focusing on specific aspects of timber sales. Forest Service critics have interwoven the BCTS issue with those of Deficit Sales and Industry Subsidies. Forest Service apologist have criticized GAO and CRS report data bases and their extrapolation, argued procedural points, documented specific cost-cutting efforts. developed procedures for apportioning joint costs, and so forth. This report will not directly discuss any of these considerations. Certainly, all these arguments have intellectual merit, all are motivated by the Nation's best interests, and all will play a part in final resolution of the issue.

The perspective adopted in this paper is quite different: the BCTS issue must be analyzed within the managerial context of the Forest Service. And within that context, above cost timber sales are neither a necessary nor sufficient condition for optional management of a National Forest. Stated somewhat oppositely, BCTS are not an unexpected "problem," representing unequivocal, demonstrable proof that something has gone wrong, but rather may be a necessary prerequisite if optional management of a National Forest is to be accomplished.

This report is directed toward the future occurrence of below cost timber sales. The evidence presented by the GAO or CRS will not be directly analyzed because they are based on different criteria. Also, this analysis will not focus on the decade of the 1970's nor the first few years in the 1980's. It is true that the data base used in the GAO and CRS reports comes from these time periods. But it is also true that the managerial context existing then is quite different from that existing now. Specifically, given the "lead-time" required for a timber sale (several years), none (or at least very few) of the timber sales forming the data base for the GAO and CRS reports reflected or incorporated the current era of integrated land management planning. The sales studied were prior to modern forest planning as required by NFMA (along with the implementing regulations) and some of the earlier sales were pre-NEPA. We make no judgement as to whether previous below cost sales were appropriate or inappropriate, wise or foolish. Those judgements are better reached by historians. The GAO and CRS reports identified a concept, below cost timber sales. And while the specific below cost sales identified by GAO and CRS were the product of a managerial context no longer relevant to the Forest Service, below cost sales could, and will likely, occur again but now as a product of the current managerial context. In fact, the policies and procedures surrounding NFMA alone ensure that the managerial context of the Forest Service today is far more conducive to BCTS than a decade ago. Rather, this report takes exception to the implication that below cost timber sales, per se, are evidence of a management problem. A management problem may exist, but the mere existence of below cost timber sales is inadequate evidence to support such a conclusion.

The existence of below cost timber sales may be sufficient to warrant an indictment of management behavior, for some organization, some place, some time. We speculate that this concept was appropriate for the robber-barren, timbering outfits that operated during the "cut-out and get-out" era at the turn of the Century. But frankly, it is difficult to think of a situation where that would hold, even for a modern organization dedicated exclusively to growing and harvesting trees for profit. Organizations can be characterized along at least three dimensions -- products, spatial features, and over time, as shown in Panel

A of Figure 1. Product refers to the kinds of things produced, benefits that are countable. Time refers to whether the organization adopts a short or long range viewpoint. Space refers to the question of whether the organization is to focus on a single facility in one place or must deal with a complex of facilities over space. While we make no attempt to document this assertion it seems clear that: the managerial context of the Forest Service calls for the integrated management of multiple products, over a large (multiple site) land base, over the long run, in a manner that gives rise to the maximum net public benefits. In that case, the large cube shown in Panel B of Figure 1 is an appropriate perspective for the Forest Service. The cube of Panel B is consistent with the notion that the Forest Service is in the business of holistic, integrated long-term land management and planning. The smaller cube in Panel C of Figure 1 would seem consistent with the proposition the BCTS are wholly undesirable. In that panel, the managerial context would pertain to dollar exchanges in timber production, on one site, and in the immediate future. (Admittedly, the GAO did evaluate next rotation management on eight sales.) Overall, Panel C seems to represent the perspective adopted in the GAO and CRS reports. With Figure 1 in mind, this report will assess the BCTS issue from the perspective of a Panel B rather than a Panel C managerial context.

This report presents a series of illustrations pertaining to BCTS in the context of intergrated forest management. In that sense, it attempts to demonstrate that BCTS are not necessarily undesirable and may be essential. These points can all be "proved" mathematically. But real world illustrations may actually be more useful, since many people are uncomfortable with mathematical proofs. We begin first by briefly discussing study methods. Results are presented as answers to a series of BCTS-oriented questions. The report ends with some concluding thoughts.

DRAFT

4a

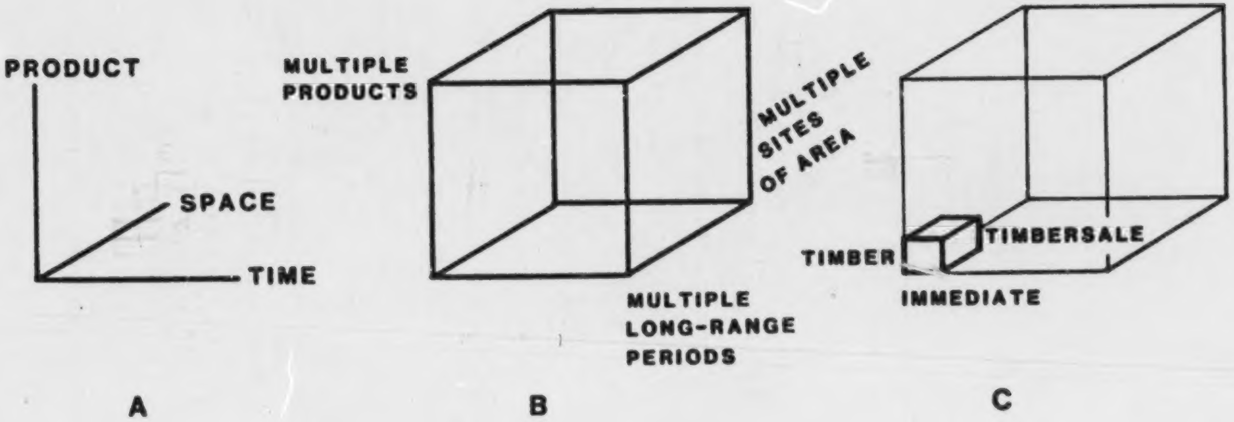

PRODUCT
SPACE
TIME
A
MULTIPLE PRODUCTS
MULTIPLE SITES OF AREA
MULTIPLE LONG-RANGE PERIODS
B
TIMBER
TIMBERSALE
IMMEDIATE
C

FIGURE 1. DIMENSIONS THAT CHARACTERIZE AN ORGANIZATION.

METHODS USED

Shortly after the BCTS issue began receiving notoriety, the Economics Research Work Unit within the Intermountain Forest and Range Experiment Station was asked to assist in the development of an analytical response to the questions raised. Fortunately, an existing research study was using analytical procedures that readily lent themselves to an assessment of the BCTS issue and had already developed appropriate data bases. Work on that study was continued and, supplementary efforts were devoted to provide the additional analyses required by the BCTS issue.

LINK TO ATP RESEARCH

The analytical procedures used in this report have their roots in a research study conducted by J. G. Jones entitled "An Empirical Evaluation of the Integrated Resource Planning Model for Use in Area Transportation Planning." The motivation behind that study was the need to provide an analytical link between forest planning and site-specific, project-level planning.

The perspective adopted by that study was that of an inverted cone of management direction, as illustrated in Figure 2. Pursuant to a body of policy direction, especially the NFMA of 1976 and its implementing regulations of 1979, integrated land management planning is accomplished for each National Forest. The forest plan alternative chosen is to be the one with the maximum expected Net Public Benefits. Subsequent to forest-level planning is implementation of the forest plan and monitoring of results. Therein lies the problem. Forest plans typically lack the needed specificity, especially spatial specificity, to be directly implementable. Current thinking is that another layer of planning, at the "area" level, must be accomplished to serve as an interface between general forest plans and comparatively specific, site-level activities. The

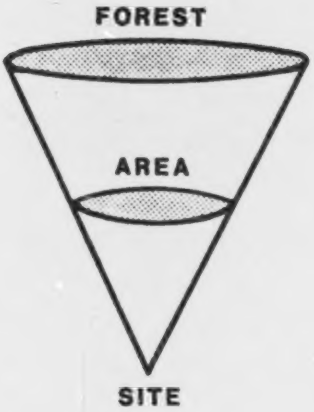

FOREST
AREA
SITE

FIGURE 2. THE INVERTED CONE OF MANAGEMENT DIRECTION.

relevant signals (constraints, objectives, etc) embodied in the forest plan are transmitted to and become the sideboards within which management activities in an area and on a site take place. This problem of implementing a forest plan is particularly acute in regards to integrating timber harvest activities with a transportation network. While the need for some form of linkage between sub-forest plans and project-level activities seems clear, the actual procedures that will eventually be used are yet to be selected. A variety of approaches are being evaluated throughout the Forest Service, one of which is the Integrated Resource Planning Model (Kirby et al, 1981) used in the Jones' study. Three features of the Jones' Study, as they effect BCTS analyses, warrant special mention.

First, the Jones' Study employed an experimental design that essentially replicated procedures on three areas, one in Idaho and two in Montana. But because of time limitations, the analyses performed for this report pertained only to the two Montana areas. They are actual, real-world examples of National Forest System personnel planning for the implementation of a forest plan. Forest planning had designated each of these areas for timber production. As such, efforts to link management of these areas to the forest plans represent today's cutting-edge ideas for tomorrow's standard operating procedures.

Second, the Jones' Study used a number of analytical techniques well-suited to the BCTS issue, the Integrated Resource Planning Model (IRPM) in particular. IRPM is a mathematical modeling system falling in the general class of analysis known as linear programming. IRPM can simultaneously handle a large number of resource projects (such as timber harvest) along with a transportation network (such as road segments) problem, both on a time-and site-specific basis. IRPM can also handle a wide variety of user-specified constraints on a time-and spatially-specific basis. Constraints can represent the directions or requirements provided to site-level activities by the forest plan. The IRPM model was used to find the "near-optional" pattern of timber harvest and roading activities over time for each of the case study areas.[1] For purpose of assessing the BCTS issue, the IRPM modeling approach has an enormous advantage: subject to the constraints imposed, it would be very difficult, nearly impossible to improve on an IRPM-based solution -- it is essentially the best possible.

Third, any effort dealing with the question of long range planning must ultimately specify a planning horizon (how far in the future) and the intervals of time (annual, decadal). The Jones Study adopted a 50 year planning horizon with the following intervals:

Time period 1 --- 0 to 10 years (first decade)
Time period 2 --- 11 to 20 years (second decade)
Time period 3 --- 21 to 50 years (third to fifth decades)

Analyses in this report are based on the same time horizon and intervals, as used by Jones.

STUDY AREAS

Figure 3 shows the locations of the two study areas in western Montana. The Twin Rocks area is located on the Lolo National Forest about 9 miles south of Thompson Falls, Montana. It occupies about 6,400 acres (10 square miles) of 2.1 million acre Lolo National Forest. The Copeland Creek area is larger, occupying about 16,870 acres (about 26 square miles) of the 2.2 million acre Kootenai National Forest. It is located about 18 miles north of Libby, Montana.

---

[1] IRPM is termed a mixed-integer programming (MIP) formulation, in that some of the variables must take on values of 0 and 1 for a solution to be meaningful. At this time, there are no algorithms available to strictly optimize a large MIP formulation, such as these developed by IRPM, at a reasonable cost. This study used a technique which provides approximately optimal solutions to MIP problems.

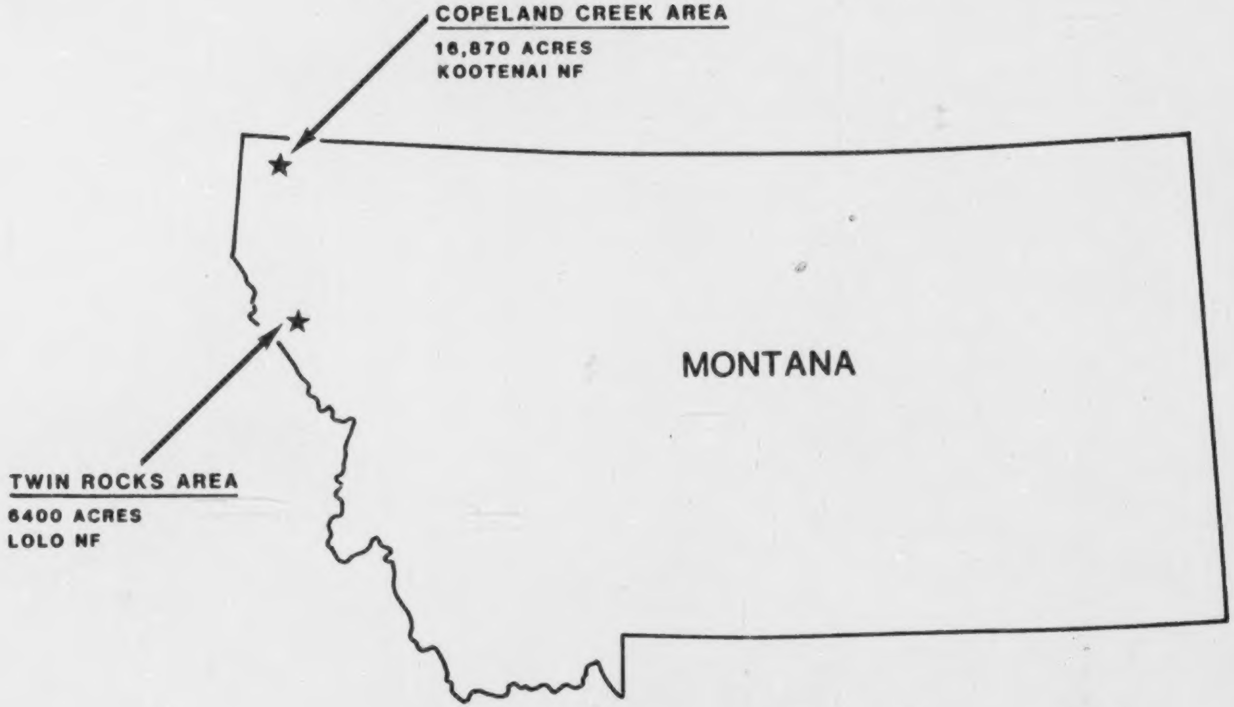

COPELAND CREEK AREA
16,870 ACRES
KOOTENAI NF
MONTANA
TWIN ROCKS AREA
6400 ACRES
LOLO NF

FIGURE 3. LOCATION OF STUDY AREAS IN WESTERN MONTANA.

Both study areas are typical of the mountainous terrain found throughout most of western Montana. Both are large enough to encompass a range of elevational, slope, and aspect differences. Timber on these areas is typical of the general forest zone; definitely not the best management opportunities, but far from the worst. Neither area is isolated and each is partially roaded. Approximately 10 percent of the Twin Rocks area and 40 percent of the Copeland Creek area are accessible by existing roads. The areas were selected for use in the Jones' Study because they were well-suited to evaluating methodologies for use in area transportation planning and because of the willingness of National Forest System personnel to support and assist in the research. In fact, Jones' research is being used as a basis to plan future timber harvest and transportation activities in these two areas. The areas, however, are not particularly well-suited to an evaluation of the BCTS issue. They do not themselves represent conventionally-envisioned BCTS sites. However, they are suitable as study areas to illustrate a methodology for analyzing and addressing the BCTS issue.

INFORMATION AND DATA USED

The information and data used to assess the BCTS issue is the same as needed to accomplish spatially specific area planning -- cutting unit delineations, timber management projects, road projects, timber yields, economic information, and constraint information. Information and data were typically developed as a joint effort between researchers and National Forest System personnel. Whenever professional, managerial judgements were required (such as design of cutting units or location of roads), those judgements were made by National Forest System personnel, not researchers. The information and data used were as real or realistic as possible.

Cutting Unit Delineations: The land within each area was delineated into potential timber harvest or cutting units. All acres within a unit were enclosed within a single boundary. The primary criterion for delineation was that the cutting units represent pieces of ground for which timber harvest projects can be designed that are operable on the ground.

National Forest System personnel developed the boundaries for the potential cutting units on each study area. These units served as the building blocks for potential timber sales. That is, a sale consists of multiple cutting units. Panel A of Figure 4 shows the 242 cutting units identified for the Twin Rocks area and Panel B shows the 315 units identified for the Copeland Creek area. Delineation of cutting units complied with existing Forest Service policy; the units varied in size, with the largest being about 40 acres.

Timber Management Projects: Timber management projects identify the packages of land management and timber harvest activities from which the IRPM model has to choose. Timber management projects are very similar to what many term "prescriptions." The basic decision to harvest timber has already been made in the forest planning process. Therefore the timber management projects in the IRPM model were fundamentally concerned only with when and where the activities identified in the forest plan allocations should be implemented, on a site-specific basis. The projects concentrated on the timing and location of timber harvesting, since this is the major activity associated with road construction. The composition of each timber management project was conditioned by and reflected in the direction and type of management specified in the forest plan.

Each timber harvest project applied to a specific cutting unit and covered the planning horizon used in the model. Each project was comprised of time-specific and site-specific activities, including harvests, site

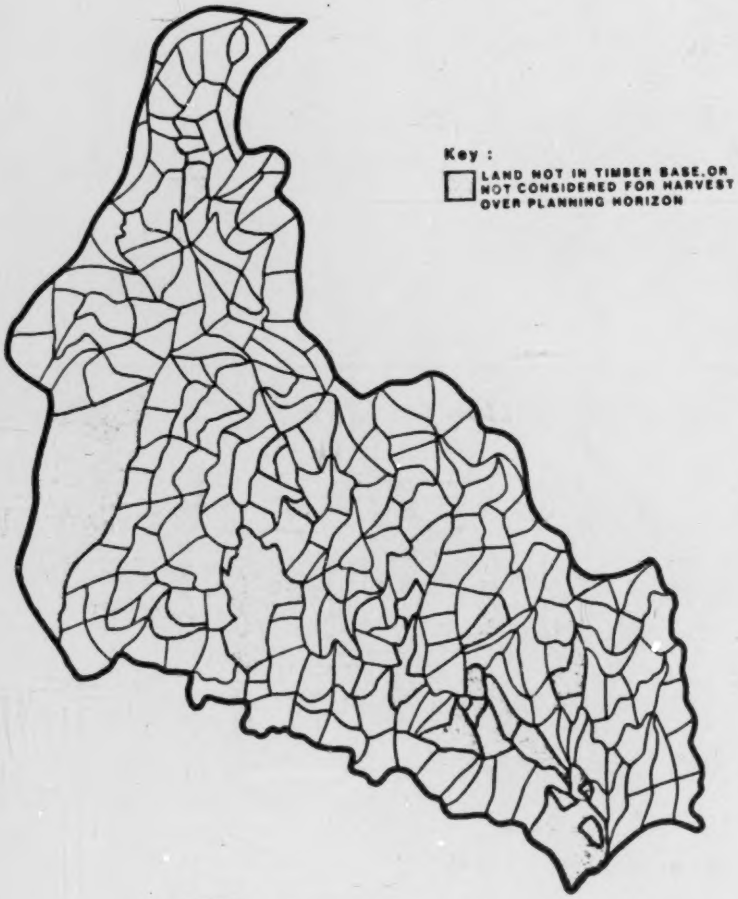

Key :
☐ LAND NOT IN TIMBER BASE, OR NOT CONSIDERED FOR HARVEST OVER PLANNING HORIZON
1 Mile

FIGURE 4. PANEL A. CUTTING UNIT BOUNDARIES FOR TWIN ROCKS AREA.

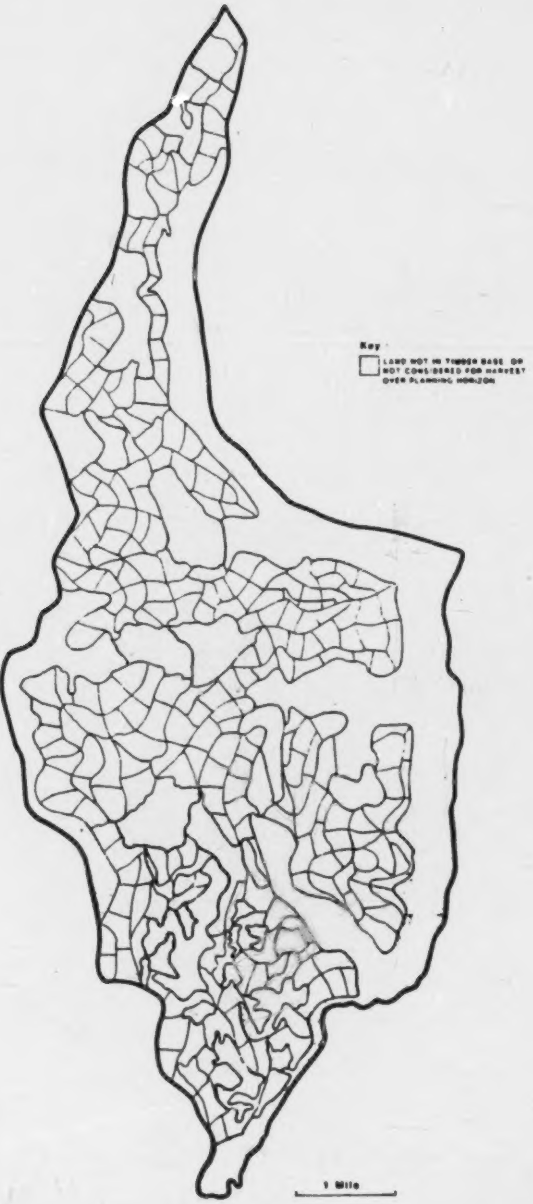

Key
☐ LAND NOT IN TIMBER BASE, OR NOT CONSIDERED FOR HARVEST OVER PLANNING HORIZON
1 Mile

FIGURE 4. PANEL B. CUTTING UNIT BOUNDARIES FOR COPELAND CREEK AREA.

preparation, and regeneration. Harvest-timing options were provided by including more than one project option for a cutting unit, each of which has a unique combination of harvests. Choice of silvicultural system was also an option for about one-third of the units. This occurred when more than one approach to cutting unit management was possible and yet consistent with the forest plan.

Road Projects: Road projects were based on a network of potential roads that could be built within a reasonable horizontal tolerance (say ±100 feet). A transportation network is comprised of a series of road segments or branches, separated by nodes. Each construction option for a branch is a road project. Road projects for a given branch can vary by the timing and/or standard to which that road segment would be built. Road projects are linked to each other and to the timber harvest projects by constraints that ensure access by the time period and road standard required.

National Forest System engineers developed what is commonly called the "saturated network" for each area. This means that given the restrictions imposed by the natural environment and engineering technology, all potential road segments needed to access each cutting unit were identified. An illustration of these for the Twin Rocks area is shown in Figure 5. The saturated road network represents "overkill" in that more roads were drawn on the map than are actually needed on the ground.

Timber Yield Information: Timber yields for each cutting unit were projected for each time period. Since the timber management projects identify activities in a spatially-specific manner, yield projections were based on the most specific timber data available. Yield projections were primarily the responsibility of cooperating National Forest System personnel. The basic function of the timber yield information was to establish existing volumes and

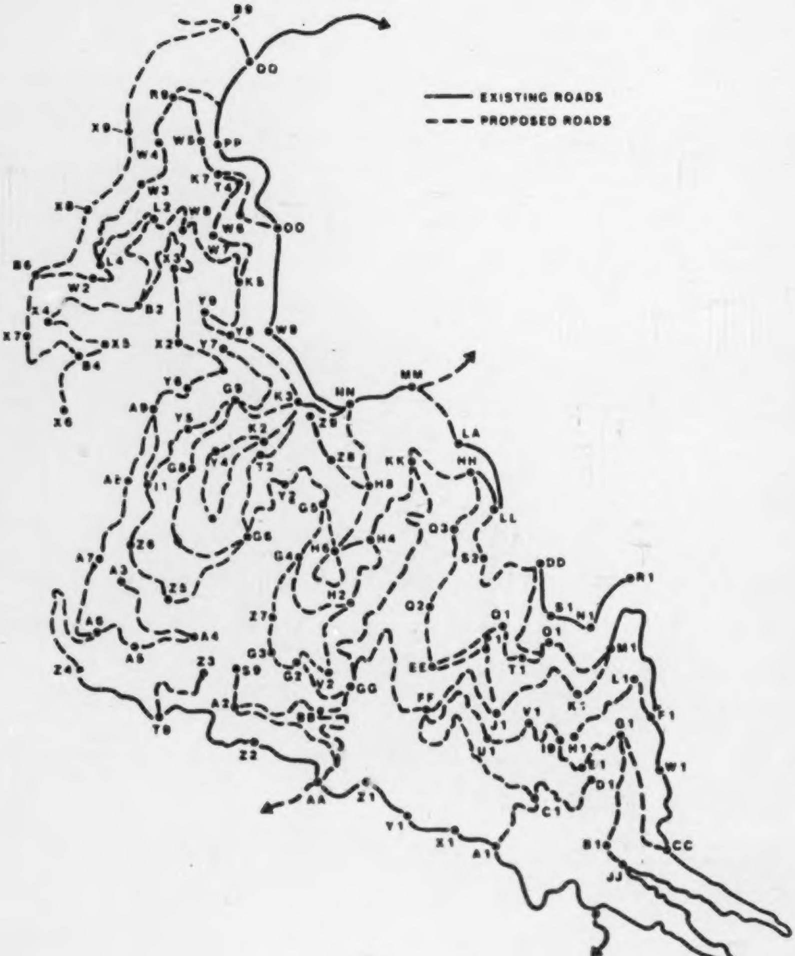

EXISTING ROADS
PROPOSED ROADS
B9
OO
R9
X9
W5
PP
W4
K7
T4
W3
X8
L2
W8
W6
OO
W7
X3
L4
B6
W2
K5
X4
B2
Y9
X7
X5
X2
Y7
Y8
W9
B4
MM
NN
Y6
G9
K3
A9
X6
Y5
Z9
K2
LA
A1
G8
Y4
T2
Z8
KK
HH
I1
H8
Y2
G5
LL
Q3
Z6
G6
H4
A7
G4
H6
S2
DD
A3
Z5
H2
R1
Q2
S1
N1
A6
Z7
O1
O1
A4
M1
G3
A5
T1
Z4
Z3
S9
EE
G2
V2
GG
L1
A2
B8
FF
K1
V1
F1
T9
J1
O1
I9
H1
U1
E1
W1
Z2
D1
AA
Z1
C1
Y1
X1
A1
B1
CC
JJ

FIGURE 5. SATURATED TRANSPORTATION NETWORK FOR TWIN ROCKS AREA.

then in effect, to allow the trees to grow over time. This feature was required for realism and to give proper weight to the likelihood of choosing to harvest in a later rather than an earlier time period.

Economic Information: The purpose of the IRPM model is to identify the schedule of timber harvest and road activities that appears to be most efficient, within the direction set forth by the forest plan. Efficiency was measured by DNR, discounted net revenue. Timber was valued as delivered logs. Several species and size categories were used to handle variations in per unit value. Costs included all purchaser costs of harvesting and getting the logs to a mill and all Forest Service costs for preparing and administering timber sales, specified roads, brush disposal, and regeneration of timber. Forest Service costs that did not vary (e.g. Forest Service Regional and Washington Office overhead costs) were not included, since they would have no effect on the model solutions. A four percent discount rate was used. Prices, costs, and the discount rate were expressed in terms of constant (or deflated) 1982 dollars. All economic information, including the base prices and costs, assumptions about real changes in prices and costs, and the discount rate, were developed in consultation with economists on the National Forests and in the Regional Office.

A brief explanation of the rationale for valuing timber as delivered logs and including purchaser costs may be useful at this point. The way the Forest Service designs road networks and timber sales can affect purchaser costs. This could be through the design of the road network, which obviously affects haul costs and road construction costs, or through design of the timber sales, which affects stump-to-truck costs, purchaser slash disposal costs, and other costs associated with specifications in timber sale contracts. From a social (or public) efficiency viewpoint, any cost imposed on a purchaser is a social cost. If this cost is not expected to result in an increment in the amount of direct benefits produced that exceeds the cost (including recreation benefits, water benefits, or whatever) it should not be imposed. From a pragmatic viewpoint, purchaser costs are important as well. On the average, a $1 additional cost imposed on a purchaser can be expected to result in $1 less the Forest Service receives for the timber sold. Thus purchaser costs can be expected to have the same effect on the Federal treasury as costs incurred directly by the Forest Service.

Purchaser costs could be accounted for by subtracting them out of delivered log values prior to use in the IRPM model. Under this approach, the difference, which amounts to predicted stumpage price, would be entered directly as the value of Forest Service timber. The problem with this approach in terms of integrated timber and transportation planning and the IRPM model is that purchaser costs associated with transportation are not known for a given cutting unit until _after_ the model is solved -- they depend on the resulting road network. To estimate these costs _a priori_ would defeat some of the advantage an integrated timber and transportation model is expected to provide.

Constraint Information: A number of constraints are required for the IRPM model to operate properly. These include: (1) constraints which limit to one the number of resource projects that can be simultaneously allocated on a cutting unit, (2) constraints on road project variables that ensure access for resource projects, (3) constraints which "connect" the traffic variables so they correctly measure the volume of traffic flowing over the road segments, and (4) various other constraints of similar nature. For the most part, these constraints are developed by IRPM software and will not be discussed further here.

In addition, there are several types of user-specified constraints that can be employed. First, there are upper limit and lower limit constraints on timber to be harvested by time period. These are based on the disaggregated forest plan and obviously identify the quantity that the plan indicates should be harvested in the area in each of the time periods. Second, there are upper limit constraints on the number of acres on which harvests are allowed by time period. These constraints were formulated for various combinations of cutting units. Their purpose is to maintain adequate dispersion of harvesting activities for watershed, visual, recreation, and wildlife purposes. We term those "adjacency" constraints. Third, there are row constraints that predict the appraised value of potential timber sales by time period. These constraints consisted of timber values measured as delivered logs, less all the costs this value must cover for a timber sale to be financially viable, including all purchaser costs, specified road costs, brush disposal costs, and KV costs. These costs and prices were expressed in terms of constant dollars, but were undiscounted. Fourth, there were constraints dealing with environmental effects of special interest. For example, sediment constraints could be included to predict sediment or water production by time period for each watershed of interest or to achieve an acceptable dispersion of harvesting activities.

MODELS BUILT

A data bank was developed to quantitatively describe all critical features of the study areas shown in Figures 4 and 5. These features include cutting unit characteristics such as unit size, timber type and size, volume, growth rates, timber harvest prescription, and so forth. Features of the transportation network included segment lengths, road standards, topographic characteristics, and so forth. All of these cutting unit and transportation network features were converted to the kinds of data required by IRPM -- timber volumes and value, logging costs, road costs, and so forth. Once all data and information had been obtained for the Twin Rocks and Copeland Creek areas, IRPM models were built and executed. Model construction was almost exclusively the responsibility of researchers. The computing facilities of the Fort Collins Computer Center were used extensively to build and execute models.

Each IRPM model was intended to do one thing: identify the "optimal" pattern of cutting units and transportation network such that the objective function is as large as possible, subject to imposed constraints. The "optimal" pattern of cutting units means not only identifying which units would be harvested but when each unit would be harvested. The "optimal" transportation network refers not only to which road segments would be constructed, but when the construction would take place. The objective function consisted of net timber revenues, discounted to the present. Constraints restricted the options and choice possibilities open to the model. For a given set of constraints, the IRPM model identified both the location and timing of timber harvest and road construction resulting in maximum discounted net revenue.

Four major types of models were constructed for each of the two study areas. The models differed primarily in terms of imposed constraints. The constraints were intended to approximate the major real world objectives and restrictions on operations. The least constrained models simply prohibited harvest of adjacent cutting units within a specified period of time. Other, increasingly restrictive, constraints pertained to limits on sediment yield and either volume or type of timber harvest.

The analyses performed used three different economic criteria -- discounted net revenue, present net value, and net sale value -- each serving a somewhat

15-16

different purpose. The IRPM model attempts to maximize (or minimize) an objective function, subject to a set of constraints. In our case, IRPM was programmed to maximize discounted net revenues (DNR). DNR is a measure of the net effect management on an area has on the Federal treasury. The DNR concept can be divided into two parts: D and NR. The D part simply refers to the standard concept of discounting. The net revenue (NR) portion has the following equivalent deviations:

Stumpage price
(-) Purchaser road credits
(-) KV and B.D.

=$ Received by Forest Service
(-) Sale preparation costs
(-) Sale administration costs
(-) Silvicultural examination costs

= Net Revenue

A more typical objective function would have been to maximize present net value (PNV). DNR is similar to PNV, except it only uses benefit values that are actually reflected in market transactions -- revenues. While PNV includes the value of nonmarket benefits, DNR does not. DNR was chosen for the IRPM objective function to avoid ambiguity. The IRPM solution is simply cleaner if the uncertainties associated with estimation and application of nonmarket values were avoided. PNV, however, was used, but outside the IRPM objective function. When used, it differs from DNR by the extent of nonmarket benefits. The final criteria used was net sale value (NSV). NSV is an undiscounted version of DNR. It portrays cash flow either during a time period or for a specific sale. A negative NSV is equivalent to a BCTS, a below cost timber sale.

In some cases, IRPM model solution results were directly useable. In other cases, results were supplemented with further analyses. Regardless, all analysis results were directed toward answering one of three BCTS-related questions:

1. Can constraints placed on timber sales affect BCTS?
2. Does a positive DNR mean that BCTS have been avoided?
3. Does the analytical perspective affect BCTS conclusions?

ANALYSIS RESULTS

In total, about a dozen computer models were built and solved in order to assess various BCTS aspects of the Twin Rocks and Copeland Creek areas. While each set of results is quantitatively and qualitatively different from another, they are all similar and analytically comparable. The computer program solves the programming problem and prints the solution along with many other items of information. The two most important pieces of information consist of the value of the objective function (DNR) and the final solution as to how and when each cutting unit and each road segment is to be managed.

The computer printout indication of "final solution" is difficult to comprehend unless converted to a map display, as illustrated in Figure 6. The figure displays the solution for the Twin Rocks area when timber harvest and road construction activities are subjected to adjacency constraints and a constraint specifying a lower limit on any type of timber harvest. In this case all timber harvest and road construction activities occur in time periods one and three, as shown by the different shading patterns on the cutting units. Not all cutting units are harvested during these time periods. Similarly only a portion of the potential road network (as shown previously in Figure 5) will be constructed during the time periods analyzed. The DNR associated with this solution is $1,043,000, meaning that the net, discounted effect on the U.S. Treasury ~~(the~~ discounted difference between Forest Service costs and receipts) is more than one million dollars. This level of DNR and the associated pattern of cutting units harvested and road segments constructed has this significance: given the data used in the model, it would be nearly impossible to identify another pattern of cutting units and road segments that will achieve a higher level of DNR and yet satisfy the constraints.

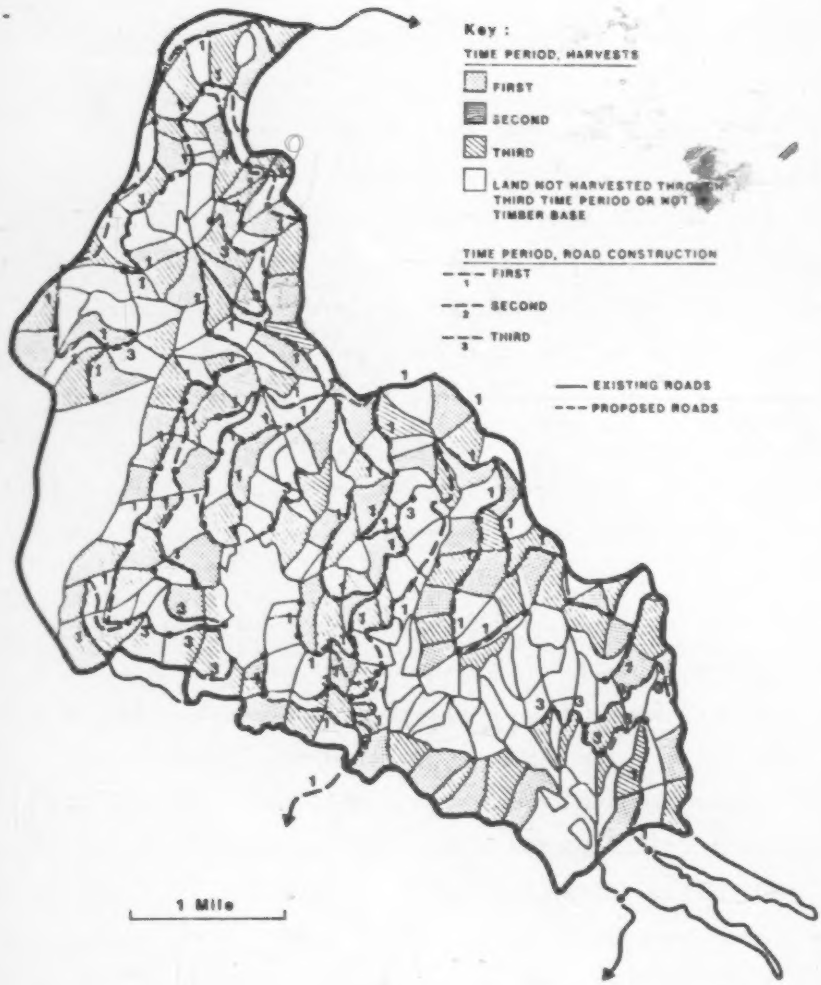

Key :
TIME PERIOD, HARVESTS
FIRST
SECOND
THIRD
LAND NOT HARVESTED THRO[illegible] THIRD TIME PERIOD OR NOT [illegible] TIMBER BASE
TIME PERIOD, ROAD CONSTRUCTION
FIRST
SECOND
THIRD
EXISTING ROADS
PROPOSED ROADS
1 Mile
1
3

FIGURE 6. TWIN ROCKS AREA SOLUTION : MAXIMUM DNR WITH ADJACENCY, AND LOWER LIMIT TIMBER HARVEST CONSTRAINTS.

CAN CONSTRAINTS PLACED ON TIMBER SALES AFFECT BCTS?

Yes. Constraints certainly can have an effect on whether or not timber sales fetch more revenue than the sale costs. Constraints can manifest themselves in one of two ways -- through the types of prescriptions used to represent activities in timber harvest projects and through the role constraints play in identifying an optimal management strategy for an area.

Prescriptions: The management prescriptions utilized on a timber sale primarily affect the BCTS issue by increasing the cost of operation. Prescription costs are increased whenever more expensive activities and/or procedures are undertaken rather than the less expensive. The increased costs may be aimed toward timber or nontimber resources. Other things equal, as costs rise, a point is eventually reached at which the costs exceed the revenues -- a BCTS. But the costs associated with timber sale prescriptions are typically not directly borne by the Forest Service. They are imposed on the timber operator who can then "pass the costs on" to the Forest Service in the form of lower bids for Forest Service stumpage.

More costly prescriptions can result from "hard" constraints or "soft" constraints. Hard constraints are those required by agency policy or implied by the forest planning process; in order to implement a forest plan, prescriptions on the ground must approximate those used in the planning process. Soft constraints on prescriptions refer to those discretionary judgements and decisions made when planning a timber sale. These frequently result from interactions within an indisciplinary team of specialists.

How frequently are timber sale prescriptions modified for nontimber purposes? While comprehensive data are not available on that point, a recent study of timber sales in the Northern Region of the Forest Service may shed some light (Schuster, Keegan and Benson 1984). That study concluded that virtually every timber sale is affected by provisions for nontimber resources. For example, study results showed that 77 percent of the timber sales contained provisions to protect wildlife resources and 54 percent contained provisions to enhance wildlife. Overall, the location and size of cutting units along with road density and location are the activities most frequently modified to provide for nontimber resources. It is not known whether or not these provisions are the result of "hard" or "soft" constraints.

How expensive are these provisions? That question is even harder to answer, definitive data being simply not available. However, preliminary results of a study designed to estimate costs of managing nontimber resources in timber sales of the Northern Region again may shed some light (Benson, 1984). That study evaluated costs from two standpoints: the cost-related activities required to be accomplished in a sale and reduction in the bid premium. It estimated that, overall, nontimber activities account for about $18 per mbf (range: $16-20) of the $145 per mbf in logging costs, about 12 percent. That study also estimated that nontimber activities reduced expected overbid by $29 per mbf (range: $2-40) where overbids averaged about $50 per mbf. The net overall effect of these two types of costs on Forest Service receipts is $37 per mbf (range: $18-60). Impacts of this magnitude could have the effect of driving a marginal operation into a below cost operation.

Modeling: Increasingly constrained IRPM models were constructed to better access the effect of analytical constraints on optimal solutions. The effect that "type of prescription" has on results cannot be detected in these analyses, since similar prescriptions were used for all models pertaining to a given area. The prescriptions used were those implied by the forest plan. Given those prescriptions, four types of models (series) were constructed. The constraints applied in each series have the following meanings:

Series	Twin Rocks	Copeland Creek
I -- Adjacency	No adjacent cutting units could be harvested within time period (TP)1 and TP2, or within TP3	
II -- Adjacency	---- as above ----	
-- Water	≤8% initial	20% average annual†
-- Sediment	-- not used --	≤80% average annual†
III -- Adjacency	---- as above ----	
-- Water	---- as above ----	
-- Sediment	---- as above ----	
-- Harvest Volume	≥14.2 mmbf in TP1	≥36 mmbf in TP2
IV -- Adjacency	---- as above ----	
-- Water	---- not used ----	
-- Sediment	---- not used ----	
-- Harvest Volume	≥14.0 mmbf in TP1	≥11 mmbf in TP2
-- Harvest type	lodgepole pine/spruce	-- not used --

In all cases, the IRPM model maximized DNR subject to the constraints associated with each series.

Increasingly restrictive constraints can only have one of the following analytical outcomes: a) the value of the objective function does not change, b) the value of the objective function is reduced, and c) there is no feasible solution, given the constraints. Figure 7 displays results pertaining to increasingly constrained models. No infeasibilities were encountered. And while the results for the Twin Rocks area show the conventionally expected stair-step pattern of response to constraints, the Copeland Creek area results show little reaction. By most interpretations, any approach to either area represents a financially viable management opportunity. The value of discounted net revenue is positive in all cases. That means the discounted value of all receipts is more than enough to offset that of the discounted costs over the 50 year planning horizon.

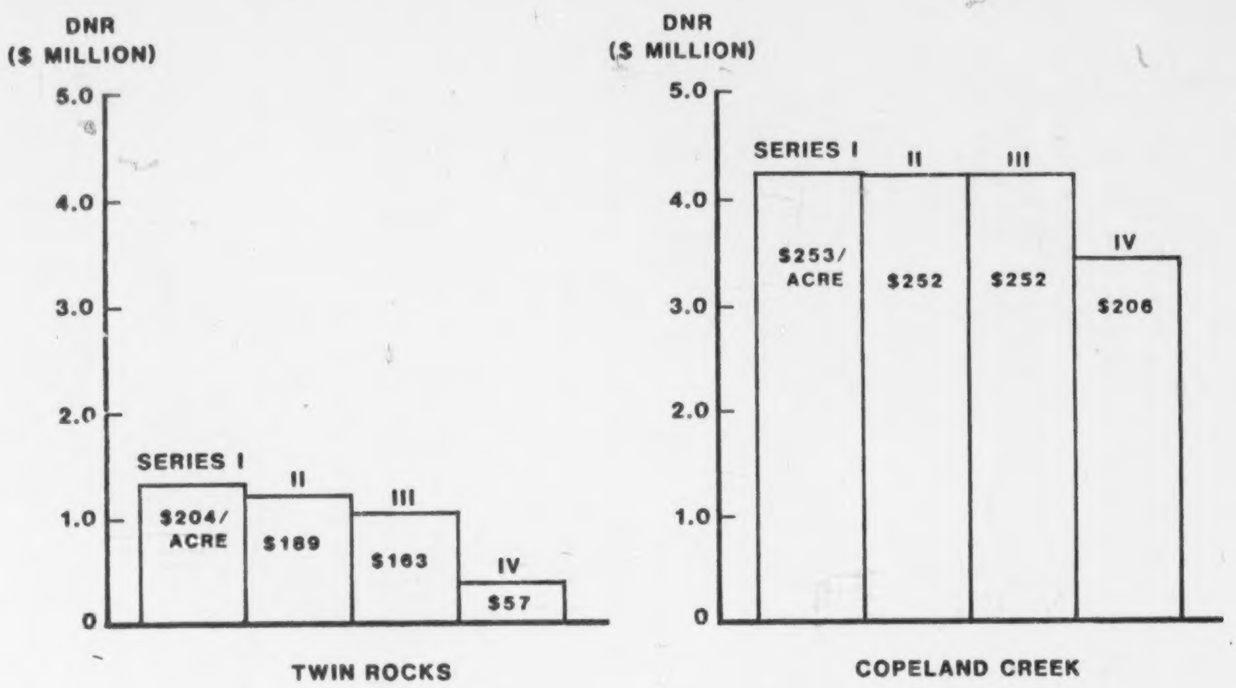


FIGURE 7. DISCOUNTED NET REVENUES ASSOCIATED WITH CONSTRAINTS ON TWIN ROCKS AND COPELAND CREEK AREAS.

The various constraint series should not be interpreted as management alternatives. In reality, only one set of constraints would actually be applicable to an area for implementation of a forest plan. Consider the Twin Rocks area. If only an adjacency constraint is applicable, then only Series I constraints are relevant to the management of the area and Series II-IV are irrelevant. Similarly if adjacency and water constraints are appropriate, then the Series I (adjacency only) approach would be improper. Display of results for different sets of constraints, in effect, illustrates various possible forest planning goals and objectives for management of each area.

Twin Rocks results are consistent with typical expectations. Increase constraints and decrease the value of the objective function -- DNR. A continuing decrease of DNR was found. The DNR associated with the Series IV constraints is 72 percent less than that for the Series I constraints. The point is not that the Series IV result is any less desirable than the Series I result. Rather, the point is that with increasing constraints comes decreasing DNRs and as this happens, the likelihood of BCTS increases. Timber sales associated with the Series IV solution are more likely to be below cost than Series I, II, or III; if a more restrictive Series V were created, it would be more likely to have BCTS than Series IV. Simply stated, as DNRs drop, there is less wiggle room between costs and revenues and the likelihood of BCTS increases.

What of the Copeland Creek area? It is clear that the management outcome on Copeland Creek is relatively insensitive to imposing increasingly more restrictive constraints. There is almost no difference between the DNRs associated with Series I, II, or III constraints. And as it turns out, the harvest level associated with Series II was also the largest level that satisfied the sediment and water constraints; hence Series II and III constraints are, in effect, identical. The reason for this corresponds to a critically important difference between Twin Rocks and Copeland Creek. Compared to Twin Rocks, Copeland Creek is already relatively developed. Refer to Figure 4, Panels A and B. The comparatively more extensive areas of shading for Copeland largely represent forest areas that have already been harvested. A master transportation network map was not presented for Copeland Creek, as it was for Twin Rocks in Figure 3. If it had, it would have showed a relatively more extensive existing road network. Because of past cutting activities, the Copeland Creek area is already a mosaic of past and future cutting units. Additionally, because of the mosaic along with previously constructed roads, there is little added effect of a sediment constraint.

A major observation is this: the methodology employed in this report will systematically work to the advantage of relatively developed areas, compared to relatively underdeveloped areas. This advantage would also extend it to forest and regions. Relatively more developed forests would tend to have less of a BCTS problem than those with less past development; relatively more developed regions would tend to show fewer BCTS than those with less past development.

This can be illustrated with the data shown in Figure 7, but modified to simulate a situation where the "optimal" road network was already present. This is accomplished by simply subtracting all roading costs from the optimal solutions. It is apparent that in Figure 7 future development of the Copeland Creek area is a better idea than Twin Rocks. The DNR per acre for Copeland Creek compared to Twin Rocks ranges from higher (Series I) to much higher

(Series IV). The listing below shows the per acre values associated with the original runs and re-run values without roading costs. The impression changes.

Constraint Series	Original Twin Rocks	Original Copeland Ck	W/O Roads Twin Rocks	W/O Roads Copeland Ck
	($ DNR/ac)			
I	$204	$253	$314	$273
II	189	252	278	272
III	163	252	273	272
IV	61	206	218	229

If both areas already had a road network in place, per acre net revenues for Twin Rocks equal or exceed those from Copeland Creek.

Back now to the issue of BCTS. It was previously argued that, other things equal, increasing constraints increases the likelihood of BCTS. Similarly, lesser developed areas are, all other things equal, more likely to encounter BCTS than those already more developed.

DOES A POSITIVE DNR MEAN THAT BCTS HAVE BEEN AVOIDED?

No, it certainly does not. All a positive DNR shows is that a particular management strategy makes financial sense. In a world of "dollar driven decisions," a hard-nosed decision-maker would require the "bottom line" to be positive. All decision situations shown in Figure 7 have positive bottom lines. Yet there are or can be BCTS associated with the management opportunities in both the Twin Rocks and Copeland Creek areas. The following assesses BCTS from a decade-by-decade and a sale-by-sale point of view.

Decade-by-Decade: Investment decisions can be, and frequently are, assessed from a variety of perspectives. Discounted net revenue, present net value, benefit-cost ratios, and internal rate of return are but a few. All are measures of overall goodness of investment. They each fundamentally reduce a time-complex problem to a single criterion. A higher internal rate of return is preferred to a lower one; a larger DNR is preferred to a smaller one. Each criterion analytically handles problems of cash flow, where the typical investment incurs "up-front" costs with revenues being received later; the analytical workhorse of these procedures is compounding and discounting with compound interest. The investor typically accepts initial costs in anticipation of future rewards.

Assume that in both the Twin Rocks and Copeland Creek areas, the restrictions embodied by Series IV constraints are appropriate. That is, subject to adjacency constraints, at least 14 mmbf of lodgepole pine or spruce must be harvested on the Twin Rocks area during the first decade and 11.0 mmbf of timber must be harvested during the first decade on the Copeland Creek area Figure 7 shows that both of the solutions are viable; DNR on Twin Rocks is about $392,000 and about $3,467,000 on Copeland Creek. The listing below shows the net sale value in each area for each time period. Note that net sale value in the first time period is negative for both areas. The net sale values shown are expressed in undiscounted dollars. That means that the overall sale program during the first time period in each area is a large BCTS. Timber sales associated with the first time period will cost more than they will return in the form of revenues during that time period. This is so, in spite of the fact that positive DNRs indicate that both management options are financially sound opportunities.

Time Period	Twin Rocks	Copeland Creek
	($ million NSV)	
1	- .709	- .819
2	--	.617
3	4.121	14.983

Is it unreasonable to have negative net sale values in these solutions while overall DNR is positive? Not at all. Part of the explanation for this involves the concept of "capital investment." In the Twin Rocks area solution, 28 miles of road would be constructed in the first time period, at a cost of $1.12 million. But since overall first time period receipts will not offset these road and other costs, a negative net sale value results. But as shown in Figure 6, the roads constructed in the first time period are the initial basis for road construction during the third time period. First time period losses are more than covered by third time period gains.

Can these decade-wide BCTS be avoided? Possibly yes, but if they can, it would only be at the cost of a lower DNR. In general, anything done to make the sales less negative will also reduce DNR. This is so because the decade-wide BCTS resulted when the IRPM model was told to find the highest overall DNR, without regard to any one decade.

The Twin Rocks and Copeland Creek, Series IV constraint, models were re-run, but this time in an attempt to maximize net sale value in the first time period. The expectation was to obtain positive net sale values in each time period, but with a lower DNR. The listing below shows that it could not be done. The Twin Rocks solution did not change at all. As it turns out, the original attempt to attempt to maximize overall DNR was simultaneously identical to maximizing net sale value in the first time period. If 14.0 mmbf of lodgepole pine and spruce

Time Period	Twin Rocks		Copeland Creek	
	Original	Re-Run	Original	Re-Run
	($ million)		($ million)	
NSV--1	- .709	- .709	- .819	- .626
NSV--2	--	--	.617	.652
NSV--3	4.121	4.121	14.983	13.908
Overall DNR	.392	.392	3.467	3.372

are to be harvested from the Twin Rocks area during the first time period, there is simply no way of doing that where revenues always exceed costs, even if a sacrifice in DNR is acceptable. For the Copeland Creek area the re-run resulted in first decade NSV increasing from -$819,000 to -$626,000, a positive $193,000 change. But the price paid for the NSV increase was a reduction in DNR from $3,467,000 to $3,372,000 and more than a million dollar revenue loss in the third time period. If a positive first decade net sale value could have been secured, it would have been accomplished through an even lower DNR, an even less efficient operation.

In general, a solution that gives rise to maximum overall DNR can have a variety cash flow arrangements for individual time periods. A positive DNR does not imply positive cash flows in each time period. In fact a negative cash flow at some point in time may be necessary if the highest overall DNR is to be secured (as in the example discussed). If all cutting units associated with either the Twin Rocks or Copeland Creek solutions were packaged as a single timber sale, each would constitute a large BCTS, but each would be consistent with long term management efficiency.

Sale-by-Sale: Actually, the decade-by-decade view of the BCTS issue is more broad than that suggested by either the GAO or CRS Reports. The focus there seemed to be on specific, individual sales. Previous discussion can correspond to a sale-by-sale analysis only if all cutting units within a time period were packaged as a single sale

But sales can be packaged in many ways. In fact, as the size of the planning area increases, there would likely be and may have to be multiple sales. The multiple sale approach would be equivalent to the phased development of a road network and associated cutting units within a time period. The listing below displays the NSV outcomes where a positive NSV during the first time period was administered as two sales rather than one. The Twin Rocks example pertains to Series III constraints and the Copeland Creek example applies to the Series II constraints. In either case, a pair of timber sales could be developed where one is "below cost," the other "above cost" and the two combined to a total equivalent to a single larger sale. In the case of Twin Rocks, one sale has a negative cash flow of $269,000, the other $493,000 positive; together they total to the $224,000, which would have resulted from one larger sale. Clearly there are economies of scale considerations that were not considered above. And certainly packaging two sales may not be a good idea, for other reasons. But it is equally clear and certain that packaging choices cannot always be avoided. The BCTS illustrated above represent packaging decision, not financial losses.

	Twin Rocks	Copeland Creek
	($ million NSV)	
Original NSV	.224	.546
Sale 1 -- Below Cost	-.269	-.032
Sale 2 -- Above Cost	.493	.578
Total	.224	.546

DOES THE ANALYTICAL PERSPECTIVE AFFECT BCTS CONCLUSIONS?

Yes it certainly does, and in a wide variety of ways. In fact, there are so many ways for analytical perspective to affect conclusions that the scope of this report must be restricted to three -- the 25% Fund, multiple-use approach, and an "industry" orientation.

The 25% Fund: One of the most controversial aspects of the GAO and CRS Reports involves the treatment of 25% Fund distributions. The point of contention amounts to disagreement as to whether 25% Fund payments to counties represents a legitimate cost of doing business for the Forest Service or is simply one part of an overall Federal program of sharing revenues with state and local governments, transfer payments. The perspective adopted can have substantial implications regarding BCTS.

The concept of the 25% Fund was established in law back in 1908. Then as now, 25% of all moneys received by the Forest Service are paid to the State (and later distributed to counties) in which the National Forests are situated. The sources (timber, recreation, and so forth) of moneys received is not important. Regarding timber, the moneys received have traditionally amounted to stumpage receipts from timber sales. Then in 1976, the concept of "moneys received" was modified to include K-V payments and purchaser road credits. Since payments to counties are apportioned on the basis of acreage, not revenue production, counties without any timber harvest will receive a pro rata share of 25% Fund distributions. Also in 1976, the 25% Fund became part of a bigger program of Federal revenue sharing as specified in the In-Lieu-Payments Act. Under the terms of that Act, overall payments to counties remain constant, regardless of 25% Fund distribution.

In order to estimate 25% Fund payments from the study areas, Forest Service stumpage, K-V payments, and purchaser road credit had to be approximated. The only troublesome area involved K-V payments. This is because the timber harvest prescriptions used in IRPM modeling lumped regeneration and site improvement costs with some other activities not associated with K-V; K-V payments were approximated as 75 percent of these candidate costs. Throughout all analyses, it made no difference whether road costs were funded directly by the Forest Service or indirectly by means of purchaser road credits.

The effect of increasing costs (or effectively decreasing revenues) to the extent of 25% Fund payments is substantial. The listing below shows that DNR levels for the Twin Rocks area decreased by more than 200 percent in the case of the Series IV solution. The other reductions for the Twin Rocks area ranged from better than one-half of the original DNRs to almost three-fourths. The reductions in DNR for the Copeland Creek area all slightly exceeded one-third. In the context of DNR per acre, the Series IV Twin Rocks area went from a positive $61 per acre to a negative $64 per acre.

Constraint Series	Twin Rocks Original	Twin Rocks 25% Fund	Copeland Creek Original	Copeland Creek 25% Fund
	($ million DNR)			
I	1.308	.514	4.268	2.743
II	1.209	.542	4.252	2.732
III	1.043	.330	4.252	2.732
IV	.392	-.478	3.467	1.991

The reductions in DNR due to 25% Fund payments only reflects some of the implications. As shown earlier, even a positive DNR can be associated with a negative NSV for a specific time period. In fact, treatment of 25% Fund payments as a cost has substantial implication for NSV by decade. The listing below shows the net sale value in each time period for all constraint series in the Twin Rocks area. In the original description of the NSV, time period-by-time period, only the first time period of the Series IV constraint simulation was negative. Recall, if all cutting units designated for harvest during that time period were packaged as a single sale, it would be one large BCTS. If 25% Fund payments were considered a cost in the Twin Rocks area, all but one constraint series contains a time period with a negative NSV. That is, most series would be associated with a BCTS.

Constraint Series	Time Period	Twin Rocks	
		Original	25% Fund
		($ million NSV)	
I	1	.271	- .065
	2	.200	.002
	3	4.491	2.482
II	1	.379	.076
	2	.030	.018
	3	3.703	2.080
III	1	.224	- .171
	2	.032	.020
	3	3.596	2.090
IV	1	- .708	-1.276
	2	--	--
	3	4.121	2.529

Multiple-Use: In response to BCTS critics, some Forest Service personnel have argued that the analytical procedures adopted are fundamentally flawed. The procedures count as benefits only those products that are sold in traditional markets and ignore those products whose value is established outside traditional markets. The point of contention is whether a multiple-use approach to benefits is appropriate.

Thus far, this report has been using a more restrictive approach. The only benefits counted were market revenues from the sale of timber. As indicated earlier, this approach was adopted generally to avoid ambiguity. The multiple-use orientation will now be partially and temporarily adopted to illustrate the magnitude of the implications associated with multiple-use benefits.

On both the Lolo and Kootenai National Forests, recreation is one of the most important types of nontimber benefits. And certainly, recreation benefits are included in the process of identifying, evaluating, and describing forest plan alternatives. But it is one thing to assess recreation benefits at the forest plan level; it is quite another thing to assess those benefits at a lower level, such as an area -- Twin Rocks or Copeland Creek. In fact, forest planning data bases and procedures work against area-level assessments. Recreation response and benefits are brought into focus at a comparatively macro level. The procedures used for including multiple-use benefits in this report are of necessity somewhat arbitrary, but the resultant estimates are the best that could be developed.

National Forest System personnel were consulted extensively to develop estimates of recreation benefits. Forest-level recreation use response relationships were converted to area-level estimates. In forest planning, recreation use is typically characterized as potential use; actual use is limited by that potential and can range from 0-100 percent of the potential. Since previous results reported did not consider recreation benefits, in effect, those results are equivalent to assuming actual recreation will occur at 0 percent of the potential. The analysis now assumes actual use at 100 percent of the potential. The value of recreation was derived from forest planning documents and ranged from $4-29 per RVD. Real changes in recreation value used were those specified in forest planning documents were used.

Inclusion of recreation values can have a substantial effect on the BCTS issue. Recall from earlier discussion that the first time period NSV for Series IV constraints was negative for both Twin Rocks and Copeland Creek. That is, for the entire decade, revenues generated were insufficient to cover costs. The listing below shows the earlier results along with results that include recreation benefits.

Time Period	Twin Rocks		Copeland Creek	
	Original	W/Rec	Original	W/Rec
		($ million)		
NSV--1	- .709	- .318	- .819	- .140
NSV--2	--	.444	.617	1.296
NSV--3	4.121	5.800	14.983	17.019
DNR or PNV	.392	1.394	3.467	4.925

The inclusion of recreation values certainly improve the appearance of these management opportunities. In fact, the level of PNV associated with these Series IV constraints now exceed the DNR levels associated with the relatively unconstrained Series I models shown earlier in Figure 7. While NSV levels were substantially improved for both areas, the level of improvement was not enough to change NSVs in the first time period from negative to positive.

Industry Approach: From time to time, the argument is made that some Forest Service timber sales are below cost because of costly constraints placed on sales for nontimber purposes. The opportunities to assess this position were few in this study. Only Series IV constraints resulted in situations that clearly depict BCTS. For both the Twin Rocks and Copeland Creek areas, the first time period cash flow was negative.

Recall that Series IV constraints consisted of limitations on harvesting adjacent cutting units (adjacency constraints) and constraints pertaining to timber harvest. The "industry" approach was simulated by removing the adjacency constraints, but maintaining the harvest requirement. The logic behind removing adjacency constraints is that these constraints are largely imposed for wildlife purposes and to maintain visual quality. Presumably, an industrial organization would be less interested in those aspects of forest management.

Removal of the adjacency constraint had a substantial influence on DNR for both study areas, as shown in the listing below. DNR increased by better than half on Copeland Creek and by more than 400 percent on the Twin Rocks area.

Time Period	Twin Rocks		Copeland Creek	
	Original	Industry	Original	Industry
	($ million)			
NSV--1	- .709	.432	- .819	- .589
NSV--2	--	--	.617	.170
NSV--3	4.121	5.220	14.983	23.148
DNR	.392	1.606	3.467	5.477

Removal of the adjacency constraint also had a noticeable effect on the cash flow situation within each time period. While the negative NSV for the first time period in the Copeland Creek area became only less negative , the NSV on the Twin Rocks area changed from negative to positive. It showed a net increase of about $1.1 million, changing from an overall below cost to above cost situation.[2]

The dramatic change in cash flow can be best seen by comparing the original management program (shown earlier in Figure 6) with the "industry solution" as shown in Figure 8. Several rather subtle changes occurred. While not apparent

---

[2] This, however, represents a conservative estimate of the net revenue that would likely be realized under industrial management. The reason is that on slopes ranging from 35-60 percent, the Forest Service usually opts for skyline logging which has less environmental impact than tractor logging, which industry would likely use. Skyline logging is much more expensive. Our models included only skyline options for land in these slope categories. Therefore, the costs that industry would incur are overestimated on their own land.

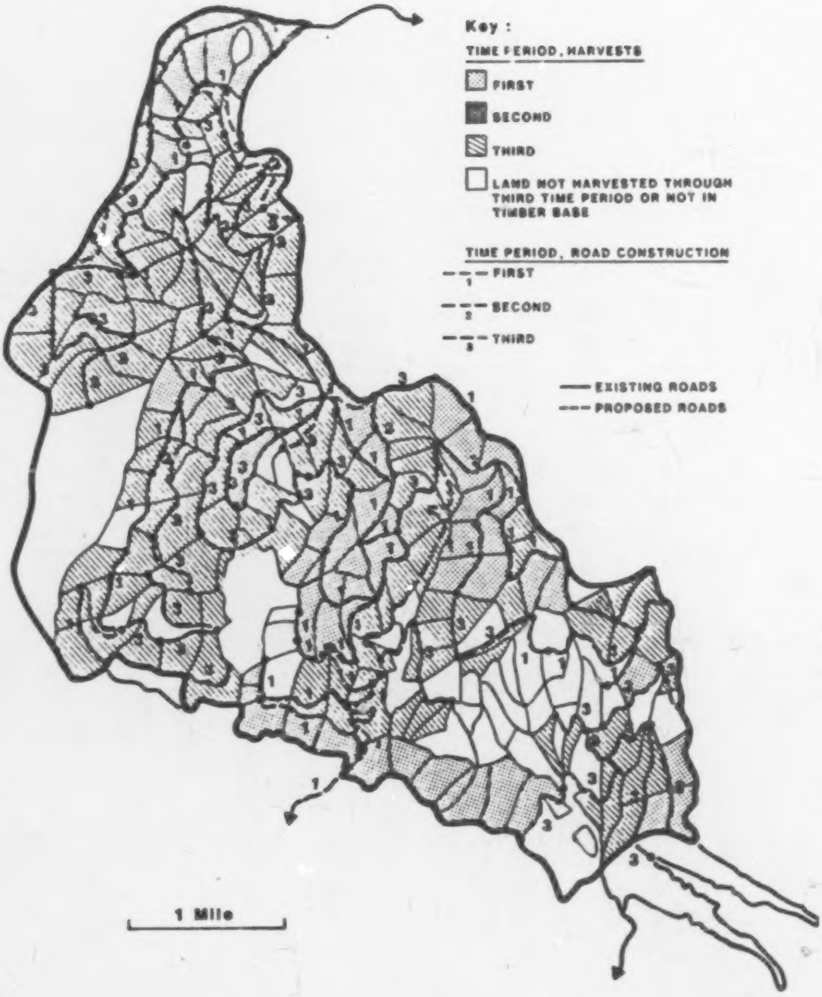

Key :
TIME PERIOD, HARVESTS
FIRST
SECOND
THIRD
LAND NOT HARVESTED THROUGH THIRD TIME PERIOD OR NOT IN TIMBER BASE
TIME PERIOD, ROAD CONSTRUCTION
1 FIRST
2 SECOND
3 THIRD
EXISTING ROADS
PROPOSED ROADS
1 Mile

FIGURE 8. TWIN ROCKS AREA SOLUTION : MAXIMUM DNR WITH LOWER LIMIT TIMBER HARVEST CONSTRAINTS; NO ADJACENCY CONSTRAINTS.

the industry solution harvested much more timber, about 50 percent more. Both approaches ended up constructing about 40 miles of road, but the timing is quite different. In the original solution about three-fourths of the roads were constructed during the first time period; the industry solution constructs three-fourths of the road miles during the third time period. The reason for the road construction reversals is the most obvious difference between Figures 6 and 8: there are no adjacency constraints in Figure 8. Given choice between harvesting adjacent versus dispersed cutting units, adjacent units were chosen. Notice the relative large areas of identically shaded cutting units in Figure 8 compared to Figure 6. When adjacent units are harvested, relatively fewer miles of road are required to do the job.

DRAFT

DISCUSSION

Early in this report, the point was made that whether or not BCTS constitutes an inherent problem for an organization depends on the managerial context within which the organization operates. The Forest Service's managerial context includes not only its people, its tradition, and more, but also the complex of administrative, statutory, and case law that governs its activities as particularly related to MUSY, NEPA, RPA, and NFMA. Legal mandates clearly call for the Forest Service to adopt management programs and practices that are sustainable in the long run, produce an integrative mixture of goods and services, are responsive to social and environmental influences, and give rise to maximum net public benefits. In the managerial context applicable to the Forest Service, BCTS *per se* cannot be judged good or bad, right or wrong; they simply are.

This report attempted to demonstrate the potential for and role of BCTS in the context of forest plan implementation. The process of planning the future management of a national forest and subsequently implementing the plan is the way the Forest Service discharges its its managerial responsibilities. The overall forest plan provides the umbrella, sideboards, direction and constraints within which management on individual, smaller areas of land takes place. A computer-based optimization model was used to develop management opportunities on two study areas in Montana. The constraints imposed on the models represented a range of alternative directions that could be provided to management of the local areas by respective forest plans. Solutions identified the "optimal" patterns of timber harvest and road construction over time and space, subject to imposed constraints. The following summarizes our thoughts regarding BCTS in the context of forest plan implementations.

*** As increasingly restrictive constraints were placed on management of the study areas, the magnitude of DNR decreased.
While the level of DNR was positive in all cases, this feature is not essential to proper management. If an area plays a certain role in overall management of a National Forest, and if that management program was selected so as to provide maximum net public benefits, and if management direction for the smaller area was correctly communicated from the overall program, then the efficient way of managing the smaller area is that where discounted net revenues are maximized. Maximum DNR may be positive or negative.

*** The decrease in discounted net revenues is less important than the notion that as DNR decreases, the likelihood of BCTS increases. The shrinking gap between discounted costs and discounted revenues simply means there is less flexibility, less ability to ensure that for each project, revenues will exceed costs. Since increasing constraints imply increasingly restrictive management direction, areas subjected to more and more complicated management direction are more likely to display BCTS than those with less complicated direction.

*** An overall positive level of DNR for an area will not necessarily preclude BCTS for a specific time period. Stated differently, periodic BCTS can be compatible with overall positive DNR. Regardless of the constraints imposed on the two study areas, the DNR associated with the optimal solution was positive in all cases. Yet for each study area, one of the sets of constraints resulted in a positive overall DNR, that included a a negative net sale value for a specific time period. The entire time period was "below cost." Moreover, any attempt to either make the time period "above cost" or less "below cost" will, in general, diminish the magnitude of DNR, resulting in less efficient management.

*** An overall positive level of DNR for an area and positive net sale values for each time period will not necessarily preclude an individual sale from being a BCTS. Stated differently, the cost for a specific timber sale may exceed its revenues and still be compatible with positive NSV for a time period and positive overall DNR for the area. To some extent, timber sale planners have choices as to how many timber sales will be placed in an area during a time period and which cutting units will be part of each sale. Planners may choose to have fewer sales with more cutting units in each or more sales, each with fewer units. In both study areas, a management situation was selected where DNR was positive, as was the NSV for each time period. In both cases, cutting units were packaged into two sales which totalled to the areas original NSV. In both cases, one sale was "super" positive and the other sale was "below cost."

*** The analytical perspective within which the BCTS issue is assessed is so critical that it almost dictates the results. When 25% Fund payment was treated as a cost of doing business, the level of DNR for each solution dropped substantially, in one case resulting in a negative DNR. Moreover, when net sale values were inspected, otherwise positive values were driven negative. The inclusion of multiple-use benefits can also have a a substantially and negative NSVs almost became positive. Finally, if constraints are relaxed, in an attempt to approximate an industry approach, one situation that displayed negative net sale values was improved and in the other, negative values became positive.

The below cost timber sale issue is clearly important to the Forest Service. And resolution of the issue can affect the agency and its management programs and policies for years to come. It is therefore important to understand the concept of BCTS for what it is and what it is not. This report has carefully avoided dismissing the BCTS issue as ill-conceived, unfounded, or irrelevant. For indeed, there may be a BCTS problem that needs to be addressed and indeed the data used to support conclusions in the CRS and GAO Reports may actually be symptomatic of poor management. But it would seem that the only defensible conclusion associated with the mere existence of BCTS is that they exist.

The position adopted in this report is that BCTS are not necessarily bad and may be an essential aspect of optimal management of the National Forest System. If so, the central issue is not how to eliminate BCTS, but rather how to cope with them given realities of budgetary and overview processes. Misunderstandings of the BCTS issue given today's managerial context can easily result in inappropriate, misdirected responses which can deflect attention from what needs to be done and further confound the already complicated task of managing the National Forest System.

REFERENCES

Benson, Robert E. Estimating costs of managing nontimber resources in timber sales. Unpublished study results. Missoula, MT.: 1984. U.S. Department of Agriculture, Forest Service, Intermountain Forest & Range Experiment Station;

Congressional Research Service. State-by-state estimates of situations where timber will be sold by the Forest Service at a loss or a profit. A report to the Subcommittee on Interior Appropriations. Washington, D.C.: The Library of Congress; Congressional Research Service.; 1984.

General Accounting Office. Should the Forest Service make timber sales below cost? A policy question for Congress. Draft Report, GAO/RCED-84-96. Washington, D.C.; U.S. General Accounting Office; 1984.

Kirby, M.E.; Wong, P.; Hager, W.A.; Huddleston, M.E. Guide to the integrated resource planning model. Berkeley, CA; Management Sciences Staff. U.S. Department of Agriculture, Forest Service. 1981. p.

Schuster, Ervin G.; Keegan, Charles E. III, Benson, Robert E. Provisions for protecting and enhancing nontimber resources in Northern Region timber sales. Research Paper INT-326. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest & Range Experiment Station; 1984. 9p.

Mr. **Peterson**. Let me point out that a couple of the problems that are not easily answered is that your whole approach to a drainage is different depending on your management objectives. For example, if one of your management objectives in the Lolo Forest example is to perpetuate an attractive area for hunting from the standpoint of elk habitat, then you go at that whole drainage differently than you would if you were just looking at it as a private landowner, so that makes it very difficult, then, to figure out which costs are separable and which costs are not, and your time periods are different.

The only way that we know to do that, that would stand scrutiny of those that deal with economics over a long period of time, is the scheme that we use in the land management planning process, which was developed by a committee of scientists that was headed by Dr. Art Cooper from Chairman Whitley's home State, that said: "The only way we know that you can look at management of a forest is to look at management alternatives over time and try to evaluate all the costs and benefits that you can, and then decide which scheme is better than another one," including the no-action alternative, as you point out, for specific areas.

That theoretically is the best way to determine the economics over time. Then you can do a project-level analysis that says: "OK, we've decided the Nine Mile area in Lolo is not going to be wilderness. We looked at the overall economics." So now you're looking at how can you put together the economics over time, and your question of front-end costs and how you might change those is the kind of thing you can look at in a project-level analysis. Those are the two things we're working on, both the land management planning economics and the project economics.

Mr. **Olin**. I would certainly encourage you to do that. I think that having some way to deal with the project of course is very important, because that's the thing that people see very tangibly, month by month. My limited experience has been that the Forest Service people are not in a very good position to answer the question: How much is the cost of this timbering and what are the benefits and what justifies what you are proposing to do? They end up with a big argument and everybody gets upset. It seems to me it doesn't need to be that way, though. If you can get some reasonable rules of thumb and a method of calculating, you can probably do a better job explaining things to the public.

Mr. **Peterson**. I would agree with you. One of the economists we have working on this is Dr. John Kurtilla of Resources for the Future, who did some of the early work with Dr. Otto Eckstein on water resources planning, multipurpose allocation of multipurpose benefits and costs, so he has been working on this general field for at least 35 years that I know of.

Mr. **Olin**. Thank you very much, Mr. Chairman.

Mr. **Whitley**. Mr. Peterson, maybe you interrupted your principal testimony this morning in order to give us these two examples of projects. Do you have an additional statement or testimony you would like to give us before we proceed with further questions?

Mr. **Peterson**. Yes; what I would like to do is to have Terry Skorheim finish quickly, in about 2 minutes, the Colorado example, and then I'll have maybe 2 minutes of testimony.

Mr. WHITLEY. All right. Mr. Skorheim.

Mr. SKORHEIM. Once again, the economic summary chart. I had gone over the fourth plan and the no-action alternative, and I would like to add one thing, talking about the no-action alternative. The costs involved in the no-action alternative include costs that we can quantify.

Mr. WHITLEY. Cost of what?

Mr. SKORHEIM. Costs that we can quantify. This is how much we would expect to pay for fire protection over time, or if we went in and treated individual trees in certain areas because they were immediately adjacent to high value lands.

The thing that is not reflected in the costs are the costs of a catastrophic wildfire, what would happen if we had a fire started because we had excessive fuel buildup and we burned off a portion of the town of Breckenridge or we burned off part of the Breckenridge ski area. Those costs are not reflected in this chart.

The final chart I would like to show you is our expected effects under the forest plan alternative, which is the way we're managing the area, versus the no-action alternative. Under the forest plan alternative we would get increased nordic skiing or increased cross-country skiing opportunities. Under the no-action alternative we would have no increase in nordic opportunities. Increased camping and hiking through the forest plan alternative; the no-action alternative would have no increased hiking and camping opportunities. We would enhance the scenic quality, versus loss of scenic quality through letting the beetle run their course.

Increased water production in both of the alternatives. Any time you open up the stand, you are providing the opportunity for snow to accumulate in those openings, and you do increase water production, although we would be able to increase it more under a managed situation that in an unmanaged situation. We would maintain the water quality under the forest plan alternative. We would have a potential loss of water quality under the no-action alternative; that is if the area burned over. We would have a reduced risk of forest fires under the forest plan alternative. A lot of the fuel buildup would be removed through our management activities. Under the no-action alternative we would have an increased risk of catastrophic wildfire.

We would improve wildlife habitat in both of the alternatives considered. As was discussed in the earlier example, the no-action alternative may for a short time increase the opportunities but over time, as the trees fall down, we're increasing the risk of fire and we're also making the area very difficult for wildlife to utilize the area, especially big game.

The bottom line, a healthy forest: We would improve the diversity of vegetation, both species, age, also size class. Under the no-action alternative we may have healthy trees but we wouldn't have a healthy forest for very long. We would be maintaining uniformity of vegetation. We would not be introducing diversity of species and we would not be introducing a mosaic of species.

Thank you.

Mr. WHITLEY. Thank you, Mr. Skorheim.

Mr. Peterson.

Mr. **Peterson**. Mr. Chairman, we might now show you the 1-minute film clip that, through the marvels of technology, we couldn't show you this morning.

[Text of a video presentation by reporter Bob McNamara follows:]

The bug is no bigger than the head of a match, but the pine beetle has killed more than 800,000 acres of Colorado's lodgepole and ponderosa pine. Green mountain slopes are slowly showing stands of rusty red, beetle killed lodgepole. Pines dead for over a year are turning brown or going ashy grey. This year forestry experts say the beetles and their larvae are so thick beneath the tree bark, it's the worst infestation Colorado has faced in 40 years.

It's out of control in a lot of locations. It's definitely in its epidemic stage at the present time in the national forests.

Not just a Colorado problem, the pine beetle over the last 40 years has become one of the biggest pests in the West. The Forest Service estimated the beetle has killed almost 5 million acres of pine in at least seven States and two Canadian Provinces. Worst, the dead trees and dry summers now combine to make several States more prone to forest fires than they have been in recent years.

Although Colorado is keeping fire from taking its dying pine, allowing loggers to begin bidding and cutting away 40-acre patches of blighted forest at a time, Colorado is not a timber-raising State where vast areas can be logged to kill a pest. With ski resorts and big-dollar property values among the pines, these trees mean tourists. They are here for looks, not lumber, and the beetle threatens to take a big bite out of the economy unless it's quickly put to bed.—Bob McNamara, CBS News, Vail, CO.

[End of video presentation.]

Mr. **Peterson**. The third time was a charm, Mr. Chairman.

I thought that capsule would give you an overview from someone who is looking from outside. He made two points I think are important. Although we have spotlighted a little piece of Colorado, the mountain pine beetle is a major problem not only in Colorado but in Idaho, in Montana, in Oregon, in Washington, and in Canada, in fact several Provinces in Canada. One of the real problems that we have dealing with it is how to deal with the national parks in both countries, where you can get a substantial buildup in those areas that spreads to adjoining areas.

That's one of the things that we're working with on the Flathead National Forest adjacent to Glacier Park, is to figure out some way to allow the natural process that goes on within the park not to become a major problem to surrounding areas. We have a substantial amount of research going on, both in the United States and in Canada, trying to find an effective control for mountain pine beetle. But, as pointed out earlier, it's a very close cousin of the southern pine beetle and both of them are very difficult because their life cycle is primarily under the bark of the tree.

Mr. **Whitley**. Is the research money for that in your budget or is it in the APHIS budget?

Mr. **Peterson**. It's in our budget.

Mr. **Whitley**. Have you got enough in there for this year?

Mr. **Peterson**. I think it's adequate for a long-term program. We've been at it for a long time.

Mr. **Whitley**. You mean it's adequate to keep the beetle going for a long time?

Mr. **Peterson**. No.

Mr. **Whitley**. I think I read you the first time. Go ahead.

Mr. **MacCleery**. Mr. Chairman, I would like to add something here. What we're talking about with the mountain pine beetle and lodgepole pine is really a natural biological cycle which has occurred over the centuries many, many times. It's a long cycle. It may take 60 or 70——

Mr. WHITLEY. Yes. They say that our southern pine bark beetle was there when the white man arrived, so I know what you're talking about.

Mr. MACCLEERY. Yes, and——

Mr. WHITLEY. We still would like to eliminate it, however, before the white man disappears. [Laughter.]

Mr. MACCLEERY. We've got a situation where under natural conditions huge areas of lodgepole pine are maturing at one time, providing a vast breeding ground, so a large insect epidemic will result. It will kill the forest and then large areas will die, and then fire will destroy what's left. You have the cycle starting over again.

What we can do through forest management is try to break up the forests into smaller age classes so that you have the forest maturing, only parts of the forest maturing at one time, and you have a situation where you've got both a continuous supply of products and you can improve the diversity that occurs there. The wildlife habitat capacity, the carrying capacity, is improved while at the same time you don't have these huge areas of timber maturing and causing the epidemic situation.

So what we're trying to do is sort of short-circuit this natural cycle and develop a forest which is healthy and diverse. We could do it without timber management but timber management is the most cost-effective way to accomplish these overall objectives.

Mr. WHITLEY. Thank you, Mr. MacCleery.

Mr. Peterson.

Mr. PETERSON. Mr. Chairman, I thought you might like to have a copy of a letter from the Summit County Board of County Commissioners, a county that's involved here.

Mr. WHITLEY. Without objection, it will be placed in the record.

[The letter from the Summit County Board of County Commissioners appears at the conclusion of the hearing.]

Mr. PETERSON. They wrote a letter to a constituent at Breckenridge, CO, who apparently inquired about what was happening, and it gives their reasoning for supporting what's going on there and points out that the objective of the entire program is to reap the benefits and know that our forests will be green and healthy for future generations. It points out that for several years they tried the direct control method and spent a lot of money, and as long as you've got a very large supply of old trees—as Mr. MacCleery is indicating—we know of no way to prevent the buildup of the mountain pine beetle. We wish we did.

Mr. WHITLEY. Are the old, mature trees much more susceptible to the beetle than the young trees?

Mr. PETERSON. Yes; I probably should have explained that earlier. What happens is, since the little mountain pine beetle overwinters under the bark, if the tree is young and the protective layer is fairly thin, then a fairly large number of them are killed during the winter and therefore they just continue at a fairly low level. As the trees get older and that layer builds up, then you get a higher proportion of them overwintering, and as that higher proportion overwinters it acts like a small snowball. At that point it will kill maybe half or more of the stand. It will kill the smaller [illegible] even though it can't overwinter in them.

Now it builds up slowly, rises to a peak, and then drops down again. About 80 years seems to be, in the lodgepole pine, about the age at which they become—when we say "susceptible" it means that they can start this carryover effect. Before that in age they don't present a large problem, and so the real secret here in this county is trying to have some younger trees, so as the beetle attempts to expand it will go into smaller trees and be killed in the overwintering process, so we get a natural control.

I would just wind up my testimony, Mr. Chairman, by saying that we have picked this second example to show you that the values placed on the noncommodity resources and the basic condition of the forest are the basic reason that we're involved here in removing some trees. In this example the cash-flow is negative, both in the short term and the long term, if you look only at cash-flow, but in the real world we don't know how to more effectively protect the other values that are there.

We might very well find out, through additional research, at some point some better way of dealing with this situation, a more economical way. But I would point out that if you look at everything from spruce budworm in Maine to mountain pine beetle to other kinds of insect and disease problems, the most effective way that we have ever discovered to deal with them is to change the age structure and the composition of the forest, because when a forest reaches an old age it becomes susceptible then to insects and disease that are not a problem at younger ages. We need, in situations like Summit County and others, to have a very close working relationship and understanding of the local people of what we are trying to do, and that has been very effectively done in Summit County. They have volunteers throughout those three counties that go talk to their neighbors about the importance of removing trees and about the importance of doing things on their own property, on private land.

Moving then to the overall theme of this hearing, and that's looking at the overall economics of forest management and timber sales, we believe we have a reasonably good method in analyzing forest planning alternatives through the land management planning process that I have pointed out was developed by a committee of scientists, all outside the Forest Service. That process has resulted in plans now coming in on most of the forests within the next 2 years. We have had a substantial public involvement in that planning process, and expect that those plans will be by far the best plans we have ever had for the national forests.

We also are placing emphasis on this project-level economic analysis, as we discussed earlier, so that we can look not only at the land management planning stage but at project levels.

We are also looking at a couple of policy changes that could help us. One is that we want to make it clear that we should recover out-of-pocket costs in timber sales, unless there is some overriding reason such as we saw in the mountain pine beetle that would mean that you have another reason for doing it. There may be other reasons for doing it, such as thinning a stand in order to promote future growth in areas like North Carolina and some parts of Virginia.

Another provision of the policy, we would limit increases in the timber harvest level on a forest in areas that have had an unfavorable cost-revenue relationship in the previous 5 years—in other words, waiting for the demand to pick up in an area, to possibly get better prices or maybe be able to lower costs.

Second, we are following the congressional direction to look at cost accounting and benefit procedures that will give us a better way of displaying what is happening. We usually can do it if we can get down to a piece of land that somebody can visualize. We have real problems in putting it all on an accountant's spread sheet in a way that people can understand what's happening. We have made some progress on that. As I have indicated, we are working with both Oregon State University and Resources for the Future. We have set up a schedule of doing that work, and we expect that that will be beneficial to us both at project-level evaluation and land management plan evaluation.

We have also looked, as Mr. MacCleery has indicated, with some teams looking at specific forests like the Black Hills in South Dakota, where we sent a team in and we said: "Now how might you reduce costs and increase revenues on this forest, and what are some opportunities?" They looked at everything from reducing the up-front investment cost, as has been mentioned earlier; they looked at maybe fewer entries. If you have five entries over a period of time your costs are higher than if you have four entries. We are looking at our requirements for slash disposal to determine whether we're doing too much in slash disposal. We're looking at how we go about reforestation—in other words, a whole series of things. We plan to do that on some additional forests, so we are not at all, Mr. Chairman, saying that we have all the answers today, that we have found the last answer to the question of how you demonstrate economic viability.

But if we can come back to where I started, the simple fact is that we try to manage these forests on a multiple-use, sustained-yield basis. It is very difficult then to go and pick out one resource and say: "What are the costs and benefits?" If you try to do that for timber, for range, for recreation, for water, for scenic beauty, that is a monstrous task of really trying to figure out how you would determine all those costs and allocate those benefits.

So the methods that we are using now are the ones that Congress prescribed in NFMA, to develop a planning process. They gave us a committee assigned to help us do that, and we are following that process which we think works pretty well in the field where you can visualize what's happening. We are not satisfied that we have all of the answers yet, and we are continuing to do specific work on project level analysis.

Mr. Chairman, I think that's all I need to give you as part of the testimony. We'll be happy to answer your questions.

Mr. WHITLEY. Thank you, Mr. Peterson. Certainly your testimony and that of your associates and colleagues here today indicates that you are aware of the problem, that you are moving to attempt to meet it, and I would hope that you are aware of the urgency of the problem. I know all of you know that in the last Congress the

Appropriations Committee wrote a provision into its Interior appropriations bill specifically prohibiting deficit sales.

Some of us on this subcommittee and the Agriculture Committee went out of our way to try to get that removed from the law with our argument that it's not just a dollars and cents matter, it's a policy matter, and that we really have the primary jurisdiction for what the management policy of the Forest Service. Their answer to us was: "Well, we think maybe you can do a little better job in exercising that jurisdiction." That's one of the things that this hearing is all about.

We intend to become involved in that and, to the extent that policy ought to be changed, we are going to be looking at that. We not only will be hearing your recommendations, but we'll be hearing recommendations from others as well, so we certainly want you to take advantage of this opportunity to give us your best shot.

To the extent that we have had areas that historically have always produced what some would characterize as deficit sales, do you have anything specific in mind as to that type of area?

Mr. PETERSON. I think if you look at an area like we just looked at in Colorado, one of the reasons those national forests are national forests and not in private ownership historically is that those lands cannot be managed on an economic basis just for timber, and we know that. There is no amount of accounting or there is no amount of magic that will change that situation. Those lands are multipurpose lands with high value for recreation and water which are nonpriced at the present time.

We will be sending up a proposal in the near future suggesting that maybe it would be appropriate for recreationists to pay a little higher percentage of the cost of what they receive. One way to make these forests economic would be to increase the fees that some others pay.

Mr. WHITLEY. I don't think we're just looking at the total national forest and user fees and that sort of thing. I doubt if you will find a great deal of enthusiasm on this committee for increasing user fees, but we're specifically looking at timber. I know your answer to that has to be, I guess, to a degree, that you don't look at timber in isolation. When you have responsibility for multiple management, timber is a part of it.

Mr. PETERSON. That's right.

Mr. WHITLEY. But in the dollars and cents world where we live with people like Brother Stockman, they tend to look at that timber in isolation and say: "OK, here's what it cost you to sell it; here's what you get from it. How come?" We just need to be a little bit better prepared than I feel we are at this point to respond to that type of question.

Mr. PETERSON. As I mentioned, we do plan these policy changes which we'll be glad to give to you. In fact, we're considering it. We haven't finally decided, but one would be to establish a minimum price to cover this out-of-pocket cost, unless there are some reasons not to.

Mr. WHITLEY. Right.

Mr. PETERSON. The second would be to limit increases in sales in areas that have been traditionally low, unless we can prove or unless there is a real overriding case for other benefits.

Mr. WHITLEY. Right. We look forward to seeing that proposal.

Mr. PETERSON. The second or the third idea would be to require some kind of documentation beyond what we have now if the sale does not carry these out-of-pocket costs.

Mr. WHITLEY. You are of course aware of the provisions of the recent GAO study?

Mr. PETERSON. Yes.

Mr. WHITLEY. And hopefully what you're talking about now would address at least some of the questions that they raised.

Mr. PETERSON. It would. As you know, the GAO study, as I indicated, they made no attempt to amortize costs and they made no attempt to look at any values other than just timber values. They made no attempt to look at any cost or benefit to anything except timber, so they would have come up with the Colorado one, obviously, as being a deficit situation. Nor did they make a judgment on whether what we were doing was the right thing. They just said on dollars and cents, just looking at timber, here is what the facts are.

Mr. WHITLEY. I would remind you, too, Mr. Peterson, that while you have a considerable constituency in areas like the two that you have talked about this morning and others, including some in my own State, and your relations with local communities there have historically been pretty good, we are dealing here with a national constituency of organizations that feel that all of the American people have a vested interest in all of the public lands, and just having the support of the local people in the areas involved is not going to be enough. That's good, and I commend you and your colleagues and the others who are here in the job that you have done in fostering that because I think it's excellent, but that alone is not going to be enough, the fact that the folks in Colorado and Montana like the way that you're managing these two areas. By the way, I thought the presentations were good.

Let me ask one final question and I will yield to my colleagues, many of whom I know have questions. You have given us two examples this morning of ranger districts where you have done considerable study and you have come up with a five-decade or a 50-year plan. To what extent have you done that nationwide?

Mr. PETERSON. The land management plans that are being prepared now require that, so that's common in the land management plans. What they have done is go to a little more sophistication at the project level, and we don't have that sophistication at all the project levels now. That's our next step.

Mr. WHITLEY. But you are proceeding——

Mr. PETERSON. We are proceeding on that.

Mr. WHITLEY [continuing]. Under the Forest Management Act to do, in all the districts, the kind of thing that you have outlined for us this morning in these two.

Mr. PETERSON. Yes. The big decisions will be made in the forest plan, and at the project level then you will deal with these project-type costs.

Mr. MACCLEERY. Mr. Chairman, if I might comment, I think economic considerations are going to have to play a role at various stages in the planning process. They need to be taken into account when the objectives for a forest are established, so that there is understanding that there is sensitivity to economic considerations in establishing the multiple-use objectives and establishing the timber management objectives and the other objectives, in that they are compatible. We also have to deal with economics at the project level to make sure that, after we do have a forest plan, that the projects we are putting in are done cost effectively and they are economic, the timber sales are economic and take into account economic efficiency at that level as well.

I agree with your comment that we're talking about a national concern or an issue that has been raised nationally, and I think the three-point proposal that we have to deal with is—first, look at a policy related to this issue, second, evaluate various cost accounting systems so that we can talk on a basis where we're not arguing about which are timber costs, which are nontimber costs, and we have a system that has some credibility that we can rely on to identify what the costs are and how the benefits should be accounted for, and the third one is to look at opportunities for reducing the costs of the timber program and enhancing the revenues through the example of the Black Hills, where we found some fairly significant opportunities to reduce costs without jeopardizing the other objectives national forests need to provide, and we've got some opportunities there both to reduce costs and to enhance the revenues generated from the timber program—so through that sort of three-point approach I think we can deal with the national concerns that have been raised and develop a program that we can get some consensus on.

Mr. WHITLEY. Thank you, Mr. MacCleery.

Mr. Marlenee

Mr. MARLENEE. Thank you, Mr. Chairman.

Welcome to the committee, Max. I appreciate your being here and the people, the folks that you have brought with you.

Max—if I might call you Max instead of Chief Peterson, it's a little quicker. It's like Ron.

Mr. PETERSON. Yes, sir; Ron. [Laughter.]

Mr. MARLENEE. Max, what drives up the cost of roads?

Mr. PETERSON. Many things drive up the cost. One is that, in the example you looked at in Montana, it probably would have been cheaper to go right up those drainages, so the fact that we're going around, across the drainages and being very careful with drainage, being very careful of the way we move material, disposing of slash, and those types of things tend to increase the cost.

Mr. MARLENEE. In other words, you have a very high standard or can have a very high standard of roadbuilding that you have to adhere to as a mandate to protect the public lands.

Mr. PETERSON. It would be high standard in terms of protection of other values. It's a very narrow road, and rolls with the land and so on, but it does have a high level of protection.

Mr. MARLENEE. Right, the high level of protection, you have to protect the visual resources——

Mr. PETERSON. Right.

Mr. MARLENEE. And the water resources.

Mr. PETERSON. Right.

Mr. MARLENEE. And the soil resources.

Mr. PETERSON. Right.

Mr. **Marlenee**. And a number of other resources, and a number of other resources, and this in turn drives up the cost of the roads.

Mr. **Peterson**. That's right. One of the reasons the cost of roads was higher in that case, as you saw, is we're trying to protect a fairly large area for elk, for an escape area for elk.

Mr. **Marlenee**. In other words, you have to locate the road so as to protect what might be calving areas, et cetera, et cetera.

Mr. **Peterson**. That's right.

Mr. **Marlenee**. So we have a high-cost investment in a road that is charged off to timber, that protects a lot of other resources while you're building that road.

Mr. Chairman, if I might, one of our committee members has a meeting, and I am going to yield to him and then I'll ask you some more about that, if I might.

Mr. **Whitley**. By all means. Mr. Schuette.

Mr. **Schuette**. Thank you, Mr. Chairman, and thank you, Mr. Marlenee, for your courtesy.

Mr. Peterson, in my district I have two national forests, the Huron Forest and the Manistee Forest, and many counties impacted by that forest area. In addition, I have jobs that are related, timber-related businesses in Graying, and Big Rapids, and Mount Pleasant, to name three. As I look at the fiscal year 1984 receipts across the Nation, I see Michigan receiving $1.2 million from timber receipts.

Could you inform me, either today or in the future, of what receipts are impacting the counties in my district and whether they are dependent or not? Is that some information you could provide for me, Mr. Peterson?

Mr. **Peterson**. Yes; we can give you the distribution of that by counties in your State. Yes; we will be glad to do that.

Mr. **Schuette**. Wonderful. One other question: You mentioned in your testimony and on page 7 of your written statement, Mr. Peterson, that you may consider limiting timber sales in areas—you looked at 5 years, as I remember—if they have not shown favorable cost-revenue outcomes. Are any of those areas in the State of Michigan, if you are able to——

Mr. **Peterson**. They probably are. We are not saying don't make any. We are saying limit increases. They might remain at the present level, but we're saying we would do that unless there were some overriding reasons to go ahead. In your forest in Michigan that I know reasonably well, in some of the places there there is considerable support by the State to do additional wildlife habitat work because it's a very heavy hunting area. In some of those areas it may be more economical to do it through timber sales than it would be to do it by direct wildlife habitat work, so we might go ahead and do it there for that purpose.

Mr. **Schuette**. In addition to the information on the county receipts, could you include some of your assessment of the cost-revenue breakdown in the State of Michigan for me——

Mr. **Peterson**. I would be happy to do that.

Mr. **Schuette**. In that you may say you will be limiting increases, so I would be very appreciative of receiving that information.

Mr. **Peterson**. I would be happy to do that.

Mr. **Schuette**. Thank you, Chief.

I want to thank the chairman and thank the gentleman from Montana. I'm grateful.

Mr. **MacCleery**. Congressman, may I make one comment related to the Michigan situation. In our forest plans, if I recall, we are finding that in looking at situations in the Lake States, that the projections are for the economics of the timber production in those areas to increase fairly substantially over the next couple of decades as the forests are maturing and becoming more valuable, so it may be—I think in doing an economic analysis, we have got to take into account these long-term management opportunities which present themselves. Michigan as well is emphasizing a diversification from the heavy manufacturing industry and a real emphasis into expanding the forest products part of their economy. All of these kinds of considerations need to be taken into account in developing the plans for individual forests so that they are compatible with the objectives of the States and the counties involved.

Mr. **Schuette**. Thank you for sharing the good news. I like to hear the pleasant information. Thank you.

Mr. **Whitley**. Thank you, Mr. Schuette, and we appreciate your participation with us today.

Mr. Marlenee.

Mr. **Marlenee**. Well, in fairness, I would like to have one of your side go, and then I'll take a shot at it.

Mr. **Whitley**. I think Mr. Olin has completed his questions.

Mr. **Olin**. I have one more, Mr. Chairman, if I could ask one more question. It's a little bit off the subject of economic timber sales, but it's related.

For many, many years, the Forest Service has reimbursed the counties that had forest, based on their revenues. I think it used to be 25 percent of the revenue or something like that. This was always thought to be a very generous thing on the part of the Forest Service and it created a lot of good will and a lot of forbearance on different issues. If I am reading the budget this year correctly, it looks like that is going to be reduced by about 90 percent by making this reimbursement based on net revenue rather than revenue. I wonder if you could tell me what that's all about and whether that's something the Forest Service wants to do, or is that something that came from OMB, or just what's going on?

Mr. **Peterson**. Mr. MacCleery is our resident expert on that.

Mr. **Olin**. I expected he would be.

Mr. **MacCleery**. Thank you, Max. I appreciate it. [Laughter.]

That proposal is one that recognizes the economic disincentives which we began to recognize several years ago associated with basing county receipts on a gross basis. The county receipts are based on 25 percent of the gross receipts, plus the cost of purchaser-credit roads which are built, plus the cost of reforestation under Knutson-Vandenberg Act money, so in effect it may be as much as 40 or 45 percent of the gross receipts coming back to the counties.

In order to improve the incentive of the Federal Government to invest money, it's felt that there needs to be an adjustment or a change because the studies that we have done and others have done indicate that if these lands, these Federal lands, public lands, were taxed as if they were private, the 25-percent receipts as they are presently occurring return significantly more revenues than if they were in private ownership. This occurs throughout the country but is most marked in the west coast—Oregon, Washington, and northern California—where timber receipts are the greatest.

So this is a proposal to remove the economic disincentive for the Federal Government to invest in these kinds of activities, to enhance timber growth and that sort of thing, so that OMB and the administration and the public at large can know that the dollars that they are putting into the Federal lands are going to be returning a reasonable return to the taxpayer, not necessarily just to the counties involved.

Mr. OLIN. I might say that is one of the most peculiar arguments that I have heard in recent times.

Last year, Mr. MacCleery, I believe we were asked to check into the subject of whether it wouldn't be better for the counties if the Forest Service went along with paying the normal assessment on forest land just as private owners pay a real estate assessment, and we had all the counties look into this. It turned out that it would have been favorable to the counties. I believe you have dropped that plan now, probably for that reason.

Mr. MACCLEERY. In some cases, in some situations, it would be favorable to the counties to go on a strict tax equivalency basis. This depends on the county, the particular situation in the county. This was a proposal that we floated out for public comment—we never sent any legislation forward—to get the reaction to it. This proposal—and I think our tax equivalency proposal did get a lot of comment, and we did a study which developed quite a bit of data on comparing the current county receipts with what would occur if those counties were taxed as private land—before us now we have another proposal to base receipts on a net basis.

Mr. OLIN. Did this proposal come out of OMB or did you fellows think this one up?

Mr. MACCLEERY. This was—well, the administration developed this proposal and we support it.

Mr. OLIN. I think you're going to have a hard time selling that concept to the general public.

Mr. WHITLEY. Mr. Marlenee.

Mr. MARLENEE. Thank you.

Max, I would like to pursue a little bit what you have already outlined, but generally throughout all of the forests and all of the regions, about who uses the roads that are built for the purpose of taking out timber, and I'm going to run down the list. We have snowmobilers, hunters, backpackers, fishermen, and a variety of other people who use the outdoor lands for recreation. We have people who harvest firewood, and you get receipts; campers, and you get receipts; minerals, and you get receipts; livestock operators, and you get receipts. Yet none of these people are allocated the cost of the road, are they, in the analyses that have been brought?

Mr. PETERSON. No, they have not been. Most analyses that have been made have shown that all as being charged to timber.

Mr. MARLENEE. Nor is the road considered a capital asset. If I were a company and I owned that land and I did an improvement on that land, that road would be considered a capital investment, an asset for the purposes of my total financial statement. Would that not be correct?

Mr. **Peterson**. That would be correct, yes.

Mr. **Marlenee**. And that is not——

Mr. **Peterson**. Some studies have attempted to do that and some have not. For example, the GAO study made no attempt to amortize them. One of the others did a little bit, but most studies have not treated roads as a capital investment at all.

Mr. **Marlenee**. Now let me ask one other question that relates to costs, and that is that here in the Deer Peak project activities I have counted in this—you said it was somewhere around 9,000 acres—I have counted almost 80 different cutting areas within that. Isn't clearcutting a lot less costly?

Mr. **Peterson**. Some of those are clearcuts and some of those are shelter wood cuts. Many of those——

Mr. **Marlenee**. No, I'm talking in size. Now, these are 80 areas——

Mr. **Peterson**. Oh, yes. Yes, yes.

Mr. **Marlenee**. And they are scattered all over that 9,000 acres.

Mr. **Peterson**. Yes, yes. Oh, yes.

Mr. **Marlenee**. Wouldn't that tend to drive up the cost?

Mr. **Peterson**. Yes, small clearcuts increase costs, yes, over large clearcuts.

Mr. **Marlenee**. Yet you have taken or have almost—you have been told by Congress to look at the visual aspects of cutting timber.

Mr. **Peterson**. Yes; not only that, we have been told to limit the size of clearcuts based on geographical areas and so on, and we do have in our regulations a limitation on size.

Mr. **Marlenee**. So on the one hand you have road standards that you've got to take into consideration, that deal with the visual impact, that deal with the water impact, the soil impact. You have the consideration of how you manage the timber cuts that are taken into consideration.

Mr. **Peterson**. Right.

Mr. **Marlenee**. You have a whole host of other people, some of whom give you receipts and pay for the access to the forest, and some of whom simply do not and enjoy the recreational benefits, and they do not—none of the costs are allocated to these areas, but simply to the timber harvest, and balanced off with the timber showing a deficit sale. Don't you feel, Mr. Peterson, Max Peterson, that a better and more accurate cost allocation is essential before Congress or the Forest Service itself eliminates the deficit timber or the below-cost timber sales, a better cost allocation?

Mr. **Peterson**. We obviously need to have a better way of both explaining and presenting and getting an understanding of what the different costs are, and so on. Yes, I agree.

Mr. **Marlenee**. Isn't that almost imperative before we jump out of the frying pan and into the fire on this thing?

Mr. **Peterson**. Well, I would hope that Congress would have——

Mr. **Marlenee**. A frying pan created by those people who would like to, in fact, obstruct any further roadbuilding in the forest and, as a result, obstruct any recreational uses as we have known them traditionally?

Mr. **Peterson**. Well, I would hope that Congress would have a better basis for making a judgment than I believe you have at this moment on this subject. To me, the National Forest Management Act with the recommendation of the committee of scientists is the soundest way that I can see right now to go.

Mr. **Marlenee**. GAO and the Congressional Research Service in their studies did not take these things into account, did they?

Mr. **Peterson**. Congressional Research Service, in that study they pointed out that they did not attempt to consider these other values, and neither did GAO, and they both specified that in their reports.

Mr. **Marlenee**. So in spite of the long-term effect of a number of years, decades where these sales would in fact be profitable—and the one in Deer Park shows that it would in fact show a profit of $3.1 million over the period of the sale in spite of losing $1.4 million the first year to take care of the visual impacts and all of the recreational impacts and stuff—in spite of that they want to stop these low-cost sales, in spite of the fact that investments are being made for recreation.

Mr. **Peterson**. I would say on the Lolo, the reason we have a bunch of positive sales right now on the Lolo is that a few years ago when I was there we made some low-cost sales to essentially provide primary access, so you have in almost all cases there, unless you were just going to go in and slick off the face as you went, you're going to have an investment cost that you're not going to recover in the first year or two. That's true.

Mr. **Marlenee**. I see my time has expired, Mr. Chairman.

Mr. **Whitley**. Mr. Weaver, I understand you have to go to another meeting, sir.

Mr. **Weaver**. Thank you, Mr. Chairman.

Mr. Secretary, you mentioned in your testimony that the Forest Service should get fair market value for the timber they sell. How does the Forest Service define "fair market value"?

Mr. **MacCleery**. Fair market value is an evaluation of what would exist if that timber was put up in a private, willing buyer, willing seller, what the timber would be worth. That is, an appraisal is done when the timber is evaluated. A sale is prepared which establishes an estimate of fair market value, and that is the point at which bidding begins.

Mr. **Weaver**. So it doesn't matter how much it costs the Government, it's just a matter of what you can sell it for.

Mr. **MacCleery**. Well, that is one element of the policy, is that fair market value should be received. Later in my testimony I also talk about the need to recognize the costs of production and the need to incorporate economic evaluation considerations in planning.

Mr. **Weaver**. How do you come to that determination? Is it a criterion for selling timber?

Mr. **MacCleery**. The economics is a criterion that has to be considered throughout the land management planning process, decisionmaking process, and with respect to approval and design of individual projects, including timber sales.

Mr. **Weaver**. Well, I mean, is there any timber in the national forests within the so-called commercial base that you do not sell because it doesn't meet that criterion you just mentioned?

Mr. **MacCleery**. Within what base? I don't understand the question.

Mr. **Weaver**. The question is, Is there timber on the national forests that you don't put up for sale because it's uneconomic?

Mr. **MacCleery**. There certainly, in terms of the biological productivity, the sustained yield level, many of our forests are below that. It's below what the forest is capable of producing on a long-term, sustained-yield basis. If my recollection is right, the Lolo is in that situation. Several of the other forests in Colorado sell substantially less than what the long-term biological potential, the long-term, sustained-yield level would indicate is possible without depleting the forest. One of the considerations in setting it below that level is the economics of timber production, yes.

Mr. **Weaver**. I will ask the question again, Mr. Secretary. Is there any timber that you do not sell because it's not economic, and what are your criteria for that?

Mr. **MacCleery**. Well, I thought I just answered the question.

Mr. **Weaver**. You said something about some forests didn't produce their sustained yield. My question is, What are your criteria for not putting up specific lots of timber because it's not economical to do so? How do you determine whether it's economical?

Mr. **MacCleery**. If there is another multiple-use objective which is considered to be of higher value than producing timber, then that area is not scheduled for timber production. We have many areas, in many cases over half the commercial forest land of many forests—commercial forest land in the biological sense, that forest land capable of producing 20 cubic feet or more—much of that as part of past forest plans and as part of current forest plans has been allocated to nontimber uses. Timber, if it is managed for at all, will be managed only as a peripheral use. We have view zones. We have wildlife habitat areas. We have areas alongside streams which we set aside for protection. We have areas that used to be called marginal component areas, where economic considerations drop those areas—those areas were not——

Mr. **Weaver**. Mr. Secretary, that's what I want to know. What are the economic considerations? My question is, What economic criteria do you use to not put up timber?

Mr. **MacCleery**. The economic considerations are present net value of total costs and total returns. Those are the economic criteria we are using. You look at the total benefits that will accrue from a timber program or any other program over time and total costs, discount them to the present, and that is information you use—the Forest Service uses—in coming to decisions as to which areas should be allocated to nontimber uses versus those which would be managed at some intensity for timber production.

Mr. **Weaver**. Well, what I'm really asking, What criterion do you have then for placing something in commercial timber production?

Mr. **MacCleery**. The economic——

Mr. **Weaver**. Is it 20 cubic feet per year of growth, Mr. Secretary?

Mr. **MacCleery**. No, it's not.

Mr. **Weaver**. Well, tell me what it is. That's what I want to know.

Mr. **MacCleery**. I said economics is one consideration. Present net value——

Mr. **Weaver**. I'm asking only about the economics.

Mr. **MacCleery**. Pardon?

Mr. **Weaver**. I'm trying to find out what criteria the Forest Service uses to determine whether it is economically viable to put up timber for sale. One of them, I assume and you have said, is how much the land can grow a year. I said is that 20 cubic feet of timber per acre a year?

Mr. **MacCleery**. Twenty cubic feet——

Mr. **Weaver**. Don't you know?

Mr. **MacCleery**. Yes, I do know. I'm trying to answer.

Mr. **Weaver**. What is the figure? How many cubic feet?

Mr. **MacCleery**. We don't have a set—the biological potential of a piece of land does not have—is only indirectly related to the economics. A piece of land on the Black Hills, for example, may only produce 20 cubic feet per acre, yet it is economic from the standpoint of long-term costs and benefits. The costs of managing it are low. You can manage it through natural regeneration, whereas a piece of land, say in your district on the west side of Oregon where you have to manage for brush competition, 50 cubic feet may not be economic depending on how that piece of land sits in relationship to the road costs, costs of total management. All of these things have to be taken into account.

Mr. **Whitley**. The Chair will state that there is a recorded vote in progress on one of two bills under suspension. This vote will be followed immediately by a 5-minute vote on the second bill. We will recess the committee at this time, and if there are members who still desire to ask questions—Mr. Stallings, if you have questions—we will come back——

Mr. **Weaver**. We have another 5 minutes.

Mr. **Whitley**. All right. Go ahead.

Mr. **Weaver**. I haven't got any more.

Mr. **Whitley**. Mr. Stallings.

Mr. **Stallings**. Let me just ask a question concerning the plans for the Forest Service in the next decade or so. Are you planning additional roads in the forest system? Have you scheduled some roads in the forest system, say in the next 10 years?

Mr. **Peterson**. I'm sorry. I didn't hear your question.

Mr. **Stallings**. What percent of the remaining roadless area in the National Forest System is scheduled for roadbuilding in the next decade?

Mr. **Peterson**. I really don't know the answer to that question because it will depend on the outcome of forest plans, but I would estimate that probably around 10 percent would be a fair guess. It could be a little above or a little below.

Mr. **Stallings**. Are some of these areas scheduled for roadbuilding found in the RARE II studies?

Mr. **Peterson**. Some of those were in the RARE II studies, yes.

Mr. **Stallings**. We have some concern in Idaho that some of the areas that are still being considered for wilderness are being looked at for possible road construction at this point.

Mr. PETERSON. Yes; we have a difficult situation in Idaho because a very high percentage of Idaho is roadless, as you probably know. We have—Congress acted to pass the big Central Idaho Wilderness bill, the Frank Church/River of No Return. Even though the report language said certain areas were expected to be released, that's probably not a legal release so we have some—even though President Carter signed off on the RARE II and said: "These areas will not be wilderness, not be recommended for wilderness, and these were," we still have some that think the ones that were recommended shouldn't be in and the ones that we didn't recommend should be.

We have simply tried to figure out some way to keep from stopping the world in Idaho, which you can't do. We have stayed out of areas, beginning in 1972, stayed out of certain areas. We stayed out of certain areas as a matter of policy after 1979, after RARE II went forward, so Congress would act. We find Congress 6 years downstream from that still has not acted.

I am not quite sure what we are expected to do in Idaho, because you simply can't produce the sustained yield of those forests by staying in the roaded areas. If we try to do that, the impact on other values—hydrologic values, wildlife values, and so on—would be intolerable, so we're trying our best to move forward in Idaho carefully. We are going to go ahead and complete the forest plans and, the way I see it now, we are going to operate under those plans unless you all come up with something better.

Mr. STALLINGS. That creates a real dilemma. I'm not sure exactly how that operates, when an area is set aside for roadless study, that you can proceed into it.

Mr. PETERSON. No, they're not set aside for roadless study. We have managed those national forests for 80 years. More than half of them are roadless today. We made a detailed nationwide study in 1979 that went all the way to the President, who made the decision. He is entitled to do that under the laws that we operate under. The only thing the executive department can't do is establish a wilderness area, by law, so we will continue to operate under those plans once we develop them unless you come up with something different. I frankly had hoped that Idaho and Montana, the last two big States that have unanswered questions, I had hoped maybe that would be resolved by now.

Mr. WHITLEY. The Chair will state that we will rise at this time. I have some questions I would like to submit for the record and, without objection, all other members of the committee will be permitted to submit questions that will be relayed to the witnesses here for answer, for inclusion in the record. Also to be included in the record will be the questions and answers submitted to the Forest Service prior to the hearing.

Mr. PETERSON. Mr. Chairman, could I be permitted to give you one last table? Some questions have been raised about the rate of timber harvest and the rate of road construction, that we are on some kind of roadbuilding binge or something. I would like to submit for the record the 1979 through 1984 numbers that show we are, in fact, building considerably less a number of roads each year.

Mr. WHITLEY. Thank you.

The subcommittee stands adjourned.

[Whereupon, at 2:30 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

[Material submitted for inclusion in the record follows:]

TOTAL ROAD CONSTRUCTION AND COST
BY FISCAL YEAR

			Programs					
	Appropriated		Purchaser Credit		Purchaser Elect		Total	
FY	Mile	MM$	Mile	MM$	Mile	MM$	Mile	MM$
79	820	194.8	8863	217.9	1179	25.4	10,862	438.0
80	923	221.7	8021	201.7	1541	54.2	10,485	477.6
81	1218	240.6	7345	201.9	1490	46.2	10,053	488.7
82	1867	226.9	5612	193.9	1251	41.0	8730	461.8
83	2016	252.7	7533	131.8	662	15.8	8411	400.4
84	1668	250.3	5507	111.1	475	10.7	7650	372.1

Total Timber Sale, Funding, Values, and Receipts
by Fiscal Year

	TM Sales D.V. Funding	Timber Sold		Timber Harvested	
		Volume	Value	Volume	Value
FY	MM$	BBF	MM$	BBF	MM$
78	346	11.0	1,328.4	10.1	854.7
79	400	11.3	1,962.6	10.4	968.0
80	452	11.3	1,948.7	9.2	730.2
81	541.6	11.5	1,767.7	8.0	720.9
82	566.9	10.0	614.2	6.7	339.7
83	580.8	11.1	774.4	9.2	649.6
84	627.6	10.7	698.7	10.5	759.6
	3,514.9		9,094.7		5,022.1

Table 25—Values, costs, and selected outputs for the fiscal year 1984 timber sale program

		Regions 1/									
	Units 2/	Northern	Rocky Mountain	South Western	Inter-Mountain	Pacific Southwest	Pacific Northwest	Southern	Eastern	Alaska 3/	Total 4/
Value of products sold 5/	$MM	33.2	5.5	14.4	7.3	98.9	422.0	94.0	24.3	1.8	701.4
Associated outputs and values 6/											
Wildlife and Fish	MMWFUD	0.6	0.3	0.2	0.2	0.7	2.7	0.6	0.4	0.0	5.7
	$MM	12.8	6.1	4.6	4.5	12.8	62.8	11.8	7.9	0.6	123.8
Recreation	MMRVD	2.5	1.1	0.9	1.0	2.7	11.5	2.5	1.5	0.1	23.8
	$MM	11.1	6.3	4.5	4.8	14.3	67.5	13.0	10.9	0.6	133.0
Range	MAUM	15.2	6.9	5.7	6.0	17.0	71.3	15.6	9.4	--	147.1
	$MM	0.2	0.1	0.1	0.1	0.2	0.8	0.1	0.1	--	1.6
Free-use fuelwood	MMBF	59.7	45.4	135.0	48.8	22.9	76.2	125.5	50.8	6.1	570.4
	MUsers	16.4	17.9	48.7	16.9	10.7	24.3	53.8	15.3	3.6	207.6
	$MM	0.1	0.3	0.6	0.3	0.2	0.3	0.7	0.1	0.8	2.6
Costs of production 7/	$MM	34.4	12.0	12.9	15.1	52.1	109.8	35.1	21.7	10.7	303.8
Net (value less cost)	$MM	23.0	6.3	11.3	1.9	74.3	443.6	84.5	21.6	-6.9	658.6
Roads 8/	$MM	40.9	18.0	8.7	7.1	39.0	88.9	35.2	15.3	20.0	273.1

1/ Data are for National Forests and Grasslands only.

2/ $MM = million dollars, MMWFUD = million wildlife/fish user days, MMRVD = million recreation visitor days, MAUM = thousand animal unit months, MMBF = million board feet, M Users = thousand users.

3/ Includes the timber sale program for the Tongass National Forest as directed by the Alaska National Interest Land Conservation Act, December 2, 1980.

4/ May not add due to rounding.

5/ This is the value of sawtimber, pulp, poles, and miscellaneous products such as posts, fuelwood, and Christmas trees. It does not include road values (purchaser credit or purchaser elected roads) or brush disposal, but does include K-V and salvage sale fund collections.

6/ These represent total quantities of selected outputs associated with the annual timber program, based on constant per-MMBF relationships in the 1985 RPA data base, current management alternative. These are the best estimates of field managers. Values per unit output are based on those published in Table F.2, adjusted to 1984 terms, of the Draft Environmental Impact Statement for 1985 Resources Planning Act Program, except free-use fuelwood which is estimated annually by field managers. A Forest Service task force is currently studying the assignment of such associated outputs, costs, and benefits to the timber program.

7/ These are National Forest costs of producing sawtimber, pulp, poles, and miscellaneous products. This includes: timber management planning, silvicultural examination, sale preparation, harvest administration, salvage sale activities, resource support to timber and K-V reforestation and TSI. Not included are general administration, timber management support to other resources, and road costs.

8/ Roads are considered capital assets that have a cost and a value. Included are Forest Service appropriated, purchaser credit, and purchaser elected road construction, and all engineering support expenditures.

United States
Department of
Agriculture

Forest
Service

12th & Independence Ave, SW
Washington, DC 20013

Reply to 1510

Date FEB 3 1983

Honorable Charles O. Whitley
Chairman, Subcommittee on Forests,
Family Farms and Energy
Committee on Agriculture
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

As you requested, here is our response to the questions you asked relating to the upcoming hearing on the economics of Federal timber sales. These brief responses will hopefully provide adequate background information for members of your Subcommittee and staff.

We have provided the information and answers that we could in the short time-frame. For several questions we will provide additional information for the record. More detail could be provided for some questions if it would be helpful, but because of the time factor we have tried to limit our responses.

Sincerely,

R. MAX PETERSON
Chief

Enclosure

I. Roads, Roads Construction, Forest Planning

1. How many miles of road have been constructed in the National Forests during the last decade?

Between 1975 and 1984, the Forest Service constructed and reconstructed approximatley 92,200 miles of road. About 1/2 of this mileage (46,000) was new construction.

2. How do road construction figures compare by Region?

The following is the distribution of the total construction and reconstruction mileage by Region for the period of 1975 thru 1984.

R-1	13,469	R-6	29,438
R-2	4,924	R-8	10,465
R-3	5,710	R-9	4,147
R-4	5,844	R-10	1,722
R-5	16,543		

3. What has been the annual cost of National Forest road construction during the last decade?

The figures for the last decade are not readily available, however, total expenditures for FY 1983 and FY 1984 were $400,375,000 and $351,780,000 respectively. These are the sums of the Forest Road, Purchaser Credit, and Purchaser Elect Programs. (The annual cost for the remaining years in the decade will be submitted for the record.)

4. How do road construction costs (per mile) compare between Forest Service Regions? Between Forests?

Road costs per mile vary widely depending on such factors as road standards, amount of rock excavation, method of contracting, and topography. The costs per mile vary between $10,000 and $220,000. Due to the topography in the western Regions, unit costs tend to be higher in those areas.

5. How is road construction funded in the National Forests? (i.e., explain the distinction between roads built through purchaser credits)

Public Law 88-657 (78 Stat. 1089) authorizes the Secrtary to finance road construction through the following means:

1. With funds appropriated by Congress.
2. By requirements on purchasers of National Forest timber and other products.
3. Through cooperative financing with other public agencies, private agencies or persons.
4. By any combination of the above.

In authorizing road construction as a requirement of purchasers of national forest timber and other products (no. 2 above), Congress made provision for the amortization of construction costs in the sale contracts. This means of amortization is referred to as Purchaser Credit. In using this method of financing, the cost of the road is deducted from the price the purchaser pays for the timber removed in lieu of making cash payments to him.

6. In the past 10 years, how many miles of roads have been built with appropriated funds (capital expenditures) and how many have been built under purchaser credit agreements?

In the past ten years (1975 thru 1984) approximately 10,700 miles of road have been constructed with appropriated funds and 81,500 miles have been constructed with purchaser credit and receipts.

7. In the past 10 years, what has been the total value of the timber that has been exchanged for road construction through purchaser credit?

This figure is not readily available. It will be furnished for the record.

8. How are road construction costs dealt with in determining payments to counties for timber harvested?

Timber purchasers are given credits for constructing system roads required by the contract which are necessary for the removal of timber. The purchaser deducts the cost of construction from the payment to the U.S. Treasury. The amount of this "Purchaser Credit" is added to actual "monies received" when calculating payments due States and counties.

9. In the past 10 years, how much money has been distributed to counties to account for roads constructed under purchaser credit agreements?

The National Forest Management Act of 1976 specifies that "moneys received" for purposes of calculating returns to States shall include pruchaser credit. In the past 8 years (FY 1977-1984) $312,075,720.56 has been paid to States, for distribution to counties, to account for roads constructed under purchaser credit agreements. No payments were made prior to FY 1977 for purchaser credits.

10. What is current Forest Service policy for setting road construction priorities? Do those priorities differ when using capital (appropriated) funds as opposed to timber purchaser road credits?

Road construction priority is based on the need for management, protection, and/or utilization of National Forest lands. Each Region plans for a given program level within an overall funding limit or constraint on all appropriated funds. Since appropriated road construction needs are in competition with all other needs, only the highest road construction priorities are selected for inclusion in the program. Roads built from appropriated dollars generally are of a higher standard than those roads constructed with purchaser credit.

Purchaser credit funds are not appropriated. The amount planned for use is authorized by Congress. All planning, survey, design, and construction engineering for purchaser constructed roads is funded by appropriated funds. Roads financed through this program are initially for a specific timber sale even though they have long-term utility for numerous activities.

11. Provide your best estimate of what percentage of remaining roadless areas that have not been designated as wilderness will be roaded during the next decade of National Forest management.

Approximately 10 percent of the total area included in "Released Areas" will have a developed road system in the next decade. Even though a road may be built into a unroaded area, a large percentage of that area will still not be considered "roaded" until road spacing is sufficient to meet the resource management objectives. Forest Plans will direct the level of development and the timing.

12. How will Forest lands previously identified for further wilderness study be dealt with in terms of the road construction program?

Resource management objectives set forth in the Land Management Plans will guide the scope and standards of the road system to be developed in any area released after further wilderness study. Through the annual appropriations the specific road program will be determined. Road construction will be scheduled in the program to provide access, when and where required by the resource activity.

13. What are the benefits of roading previously unroaded areas--to wildlife, recreation, and the Forest itself?

If the recreation objectives require vehicular access then roading is required. Consequently some recreation users benefit by having the access. Various timber management activities benefit from road access. Timber harvest, thinning, fire supression, and disease control activities are normally more effective and efficient if accessible by road. Timber sales and road construction can often be designed to enhance wildlife habitat. Hunting and fishing as a recreation activity can be enhanced with improved access and relieve the use of pressure on roaded areas. Roads provide for dispersion of the forest users thus reducing overuse in certain areas.

14. Aside from costs in dollars, what are the other costs of road construction--such as impacts on wildlife, water quality, and recreation? Can you suggest some research on the impacts of roads on wildlife, for example?

The "other costs of road construction" i.e., the effects of roads and other resources can not be accurately established. Usually the effects of road construction are anticipated and taken into account during the planning, location, construction, and maintenance of a particular road.

Limitations and management activities including roads are routinely established throughout the Forest Service. High value fishing streams will require higher cost bridges to avoid encroachments of earth fills. Key habitat areas and riparian zones have stringent constraints that limit and control impacts. Endangered species and their habitat requirements influence area management. Visual quality objectives guide where, how, and even if management activities such as the roads will be allowed.

Roads are managed to reduce the impacts on wildlife. For example, a road may be closed during certain periods of the year to avoid elk calving rounds, turkey breeding season, etc. In some cases during and immediately after road construction, there can be an increase in sedimentation, but road construction plans provide for treatments to avoid such impacts to the degree possible and certainly to maintain the established water quality standards. Such practices are called Best Management Practices. If an area has traditionally been used for solitude type recreation, then roads can change this type of use.

Research does exist that treats the effects of roads on other resources. Sedimentation relating to roads, revegetation of road cuts and fills, and some research on the effect of roads on wildlife has been initiated. For example, our study indicates that elk will withdrawn from a road corridor when vehicle noise is present and move closer when there is no use.

15. What efforts are currently being made to reduce road construction costs?

Several efforts are currently oriented towards only reducing initial construction costs but controlling the overall costs of roads.

1. Road design policy and guidelines were revised in 1982 to allow more flexibility for managers to taylor a road to specific resource needs. Our internal management review system is monitoring the progress of this policy change.

2. Engineering functional performance standards have been developed to measure the efficiency of road development activities.

3. Value Analyses, which is site specific economic analysis of all aspects of a project, are being performed to ensure the most cost efficient method is being used for road development.

4. Abbreviated construction specifications have been implemented Service-wide and are being used for low standard roads.

5. A National Assessment of road planning and design processes is currently underway with action plans being carried out to improve five specific problem areas.

16. Outline the standards for roads currently constructed in the National Forests.

Forest roads consist of (1) single lane (10-14 ft) travel ways with various combinations of features that may include turnouts, gravel surfacing, and drainage structures and (2) double lane (18-24 ft) with various combinations of features that may include drainage structures and gravel or bituminous surfacing.

Single lane roads generally have design speeds of 10-20 mph. Double lane roads generally have higher design speeds up to 45 mph to accommodate larger volumes of mixed traffic while maintaining free flowing traffic.

The selection of road standard evolves from design criteria developed from land and resource management plans. Individual standards are selected that are appropriate for the intended uses and require land and resource protection. A road may be designed in its entirety to the same set of standards, or it may have different standards for different sections.

17. Will these road standards be altered in entering new (unroaded) areas?

The selection of road standards will follow the same procedures used for other road construction. Roads will be designed to standards appropriate for their intended uses, considering safety, cost of transportation, and impacts on land and resources. A balance of these factors will be found for each road, or section of road when selecting the individual standards that are appropriate for the intended uses and meet resource management objectives.

18. How are the costs of road construction allocated under your current accounting system?

Road construction is financed by appropriated dollars for Timber Roads, Purchaser Election, and Construction of Roads and Trails. The funds are tracked in the accounting system by appropriation and function. Construction of roads by Timber Purchasers is financed from Timber receipts.

Appropriated road construction funds are allocated in the general categories:

a. Appropriated Road Construction and Reconstruction.

b. Augmentation. (Funds needed to supplement purchaser construction when a higher standard road is needed than that of the individual sale or when there is insufficient purchaser credit (stumpage) to construct a road to the necessary standard.)

c. Bridge Construction.

d. Engineering Support. (Survey, design, and construction engineering for roads to be constructed by any of the funding methods available.)

e. Rights-of-Way Acquisition.

f. Transportation Planning and Management.

19. How are the benefits of road construction accounted for in Forest Planning?

The value of timber and other resources tributary to roads is generally increased because the road exists. Therefore, the benefits of road construction are accounted for when values are assigned to specific resource outputs such as dollars per M board foot, value of a recreation visitor day, value of an animal use month, etc.

20. If the National Forest new road construction program were halted today, what impacts would that have on your ability to meet the nation's future demand for timber and other multiple-use products?

The principal effect would be the concentration of timber harvesting activities on existing roaded areas. Silvicultural prescriptions for stands and other environmental considerations in many instances would preclude multiple reentry for harvest activities in the same areas. Sooner or later, if we reduce the land base available for timber and other multiple use products, we will have to reduce the output of these goods and services.

21. Could money saved by reducing road construction in the National Forests be used to improve the management of areas already roaded? Would these areas then be able to meet future needs?

The answer to both questions is no. Fiscally, funds appropriated for road construction cannot be used for other resource management activities such as timber stand improvement or other silvicultural treatments which would enchance the productivity of already accessed areas. Unless the Congress reduced the road construction appropriations and increased the appropriations for other programs.

The question also implies that through more intensive management, areas already accessed would be capable of yielding higher volumes of timber. This is not always possible when other resources such as wildlife, soil, water yield, water quality, recreation experience and esthetics are considered. Yield rates are often affected by achieving a balance in the management of these other resources.

Our analysis, through the RPA Assessments, have also shown that the future needs of the nation for renewable resources cannot be met by more intensive management alone. Additional access to available productive forest land is also needed.

Often the cost of intensive forest management practices may be greater than the cost of accessing areas and employing extensive management practices. Thus in the long term any money saved through reduced road construction may be more than offset by the increased cost of intensive management practices. These determinations must, however, be made for each site specific situation. Economic analysis conducted as a part of our Forest Planning is being utilized in making these determinations.

22. Would additional investments in private non-industrial forest lands help to alleviate pressure to access areas that are currently roadless?

Yes, but to a limited extent. Our Resources Planning Act (RPA) Assessment of the nation's ability to produce renewable resources consider all available opportunities including the productive capacity of all private and public lands. When the nation's ability to produce is compared with anticipated demands, it becomes apparent that, in the long term, we need to rely upon the capacity of both public and private lands. Increased investments in private non-industrial forest lands will not offset the demand on public and private lands. Instead they need to supplment commodity production of the public lands.

Although it is true that private non-industrial forest lands are not being fully utilized, the probability of their being so is highly speculative. Many private lands are not utilized simply because there is no established industry within a reasonable distance, and insufficient opportunity exists to attract that industry.

The greatest opportunity for increased investments in private non-industrial forest lands lays in the Southeastern portion of the country. The greatest demand for additional access to productive public land, however, exists in the Northwest. This regional disparity prevents any significant interchange of private resources for public resources without creating major economic effects on dependent communities and associated industry.

23. Are current federal investments in private non-industrial forest management, through your State and Private Forestry program, adequate in regard to question 22?

We have identified what the total investments needed are. It is assumed that the States will provide the necessary funds to meet these needs. Instead of providing assistance for specific activities, and projects of national benefit, the Federal role will be to provide limited specialized technical assistance, and provide coordination.

24. What factors, such as productivity, environmental consequences, and cost are considered in determining whether or not to access an area for timber harvest?

All of these factors and more are considered and resolved through Forest and project level planning. These factors are evaluated in Environmental Analyses that are made pursuant to the National Environmental Policy Act (NEPA).

25. To what degrees do costs of road construction account for the large number of Forests that are reported to be "losing" money on their timber sales program? Would building fewer roads in the National Forest save a great deal of money?

Cost of roads is not the only reason, or the overriding reason, that Forests are sometimes interpreted to be "losing" money on timber sales. To understand the problem, it is necessary to consider all costs such as bucking and felling, skidding, hauling to to the mill, brush disposal, KV and general sales preparation, and administrative costs. Roads are used for more than the current sales and will be used over and over again in the furture. Therefore, road costs should not be thought of as only applying to the specific sales and having no future value. Other factors include the removal of low value material to improve timber stands. Timber sales also accomplish other resource management goals which reduce the need to appropriate money for that work.

Building fewer roads would not save money over the long term. Total costs must consider stump to the mill. Fewer roads would either make the timber unavailable or reduce the price paid the Government.

Additionally, if costs of roads are only considered in one decade the costs could exceed the value of timber for that period, but if considered for several decades timber values in may cases exceed total road costs.

26. Generally, what would be the consequences of not further roading the National Forest in terms of forest fire protection, insects and disease problems, wildlife habitat, recreation, and watershed values?

Forest Fire Protection: Roads provide access for fire fighting forces and equipment. Initial attack time is a function of transportation facilities. There is a risk that more acres will burn if fire fighting forces cannot be delivered to the fire soon and in sufficient quantity.

Insects and Disease: Some prevention and control measures also depend on access. Timber stand treatments will be more costly if an area is not accessible by roads. Insect or disease killed timber cannot be economically salvaged without roads.

Wildlife Habitat: Enhancements of wildlife habitat would be more costly without road access. Results like creating wildlife openings, removing overgrown brush by prescribed fire which result from road dependent management activities would be more costly.

Recreation: Existing recreation facilities which are road accessible would have to absorb future increases. Recreation uses of the unroaded areas would trend to backpacking and hiking as opposed to developed campground use or driving for pleasure. Hunting and fishing pressures would increase in the already road accessible areas.

Watershed Values: There are watershed treatments which would be more costly without roads. However, watershed projects are not an extensive component of Forest Service programs. The relative effect of not further roading the National Forests on watershed values is not significant. To the extent that roads have some erosion associated with them, the lack of roads could be a benefit to strict "watershed values" in the short term.

27. How many engineers are employed in the Forest Service? What percentage of your total FTE's does this represent? What duties do they have aside from road construction?

The Engineering workforce included 1,820 professionals as of February 18, 1984. They accounted for 3.5 percent of the total FTE's.

Aside from road construccion, Engineering is involved in all or part of the planning, programing, procurement, design, construction, maintenance, and management of the following:

Water and Wastewater Systems
Trails

Buildings and other Facilities for Fire, Range, and Recreation Functions
Geometronics
Remote Sensing
Cadastral Surveying
Fleet Equipment
Computer Systems and Technology
Equipment Development
Research
Dams

28. What cost savings could be realized by reducing road construction costs? How much could this save?

We belive this Agency has seriously and comprehensively addressed the issues of controlling road investments. Most of what can be done has been done. We will continue to monitor closely our road investments to ensure every dollar is spent wisely.

Reducing road construction costs has been a national intiative for the past 4 years. We began by stressing road cost reductions by making it a performance element for Regional Foresters. Subsequent actions have included a comprehensive review and update of policies, handbooks, and guides to ensure all directives provided instructions to design and build the minimum facility necessary to accomplish resource programs. We issued an interim new construction specification for use in constructing non-critical/lowest traffic volume roads. We have negotiated with the Federal Highway Administration to ensure the maximum amount of our roads possible are exempt from Highway Safety Act requirements and the resulting higher standards.

29. Why are proposed new roads not mapped out in the Forest Plans?

The Forest Plans determine the land uses by area. In general terms, the plandiscusses access needs and provide road development direction. Major corridors will be identified and road densities considered. However, specific prescriptions are not developed in Forest plans.

The site specific analysis needed to locate roads and to determine the appropriate road standards will come later as projects are identified to implement the land and resource management direction in the Forest Plan.

30. What opportunity does the public have to comment on specific new road construction?

Decisions to construct new roads are made within the NEPA process. Public involvement is a part of that process. Timber sale records, for example, are included in the Environmental Assessment Report (EAR) or the Environmental Impact Statement (EIS) prepared for a sale. Occassionally, an EAR or EIS is prepared specifically for a road project if the road is a significant action by itself.

31. Compare the dollars (including road credits) spent on new road building, reconstruction of old roads, and maintenance of roads.

Using FY 1984 Expenditures for this comparison, the following information is provided:

Road Construction	$170,692*	41 percent
Road Reconstruction	181,388	43 percent
Road Maintenance	64,942	16 percent
TOTAL	$417,022	

* $ in 1,000's

32. How long will a "permanent" road last? How much maintenance is required on a road and at what intervals?

The life of a "permanent" road can be highly variable depending on the resources and management objectives served and the initial investment. The term "permanent" does not imply a perpetual existance. Where a resource activity can be fully accomplished in a 10- or 20-year time period, and no other resource function requires its continued existance, the road will be closed, and the land it occupies returned to production. Facilities providing access to administrative facilities or recreation sites which are no longer needed, or to completed research study areas are examples. Changes in technology, such as in log yarding, may also obviate the need for a facility at which time its use would be discontinued. Many roads constructed half a century ago continue to function very well.

The degree and frequency of maintenance is entirely dependent upon its anticipated use. Permanant roads that are closed to vehicle traffic as described above, generally require very limited maintenance aimed only at protecting adjacent resources. The facilities may be observed annually and if required, some maintenance such as erosion control work performed. Rocks and trees, nowever, are not removed, and the surface is not bladed. This situation describes the minimum maintenance effort which is conducted on approximately 19 percent of our road system.

On the other end of the scale are roads that have large volumes of mixed traffic. In these situations, routine work may consist of maintaining drainage structures twice each year (spring and fall), blading the surface periodically throughout the year depending on traffic and weather conditions, and abating dust where the type and volume of use dictate. Approximately 31 percent of our system receives this degree of attention.

Between the two extremes lays a significant (50 percent) portion of the system which is maintained only for high clearance vehicles (generally all vehicles except modern passenger cars). Only that work necessary to remove blockage, ensure functioning of drainage devices, and protect adjacent resources is performed. Travel convenience and comfort is not a maintenance consideration. These facilities are observed annually and work accomplished only on an as needed basis.

33. Describe the different types of roads on the National Forest System. What is the purpose of each kind of road?

Three basic types of roads comprise the Forest Development Road System.

1. Arterial roads - These provide service to large land areas and usually connect with public highways or other Forest arterial roads to form an integrated network of main access routes. Typically, large volumes of mixed public and commercial traffic utilize these facilities for all National Forest purposes. Their location and standard are often determined by a demand for maximum mobility and travel efficiency rather than a specific resource management activity. Arterial roads are usually maintained for continuous use by all types of vehicles.

2. Collector roads - These serve smaller land areas and usually connect to arterial roads. Their basic function is to collect traffic from specific resource activities and link them to the main access routes. Location and standard are influenced by multi-resource needs. Travel efficiency and mobility are less of a factor than for arterial roads. Generally, these facilities are available for mixed public and commercial traffic, as they serve several resource uses simultaneously. Usually these facilities are available for continuous use, but many may not be maintained for modern passenger cars. Direction for the area served as defined in Forest Land and Resource Management Plans, determines the kind and type of traffic for which the facility will be maintained.

3. Local roads - These facilities represent the "low end" of the system. They are generally low standard roads constructed to serve one or more specific resource activities. Location and standards are determined by the requirements of the specific resources rather than travel efficiency. Often they are constructed for high clearance commerical traffic. Mixes of public and heavy commerical traffic are often controlled by road management techniques. Many of these roads are closed during periods when not being utilized by the resource activity that required their construction. Although not used on a continuous basis, they are considered as permanent roads and will be utilized again at varying frequencies for future management purposes. The most common example of a local road is that facility which provides access to specific cutting units within a timber sale.

A fourth category, temporary roads, is also constructed on National Forest land, but is not included as a part of our transportation system since they do not serve a management purpose. They are constructed only for convenience of a timber purchaser, other contractor, or for the accomplishment of a very specific resource activity. Generally, they are used for that purpose of one season or less (often only a few days or weeks) and will not be needed again.

II. Timber Sale Policies and Procedures; the Appraisal System

1. Should the timber sales program be responsive to changing economic conditions? Has it been responsive in the past?

We have maintained a policy of providing a dependable supply of timber to meet the needs of the dependent industry. This means offering a relatively uniform supply of timber from year to year. Timber funding requested by the Administration and provided by the Congress varies somewhat from year to year based on anticipated demand, but once a budget has been established for the year, the Forest Service makes every effort to sell the financed program.

Because of the relatively long period between development of the budget and its execution, sometimes we end up with a program which is out of synchronization with markets. Therefore, we are developing a proposal which would provide additional flexibility to vary the volume actually offered for sale with market conditions which develop during the fiscal year. If, markets are less than anticipated, sales would be fully prepared, but not advertised. Rather they would be held "on-the-shelf" for later offering during periods of rising demand.

2. How can management and planning be modified to react rapidly enough to prevent artificial shortages during economic booms and timber gluts during recessions?

We believe that the proposal outlined in response to question (1) could provide the flexibility in our sale program to enable us to provide a rapid response to market fluctuations.

3. Should the Government share the risk of lumber market variability by adjusting timber prices? How are prices adjusted currently?

The markets for lumber and plywood are highly volitile. Timber priced appropriately for low market periods would offer inordinate profits during periods of strong demand, while timber priced appropriately for periods of strong demand would be economically inoperable during periods of low demand. Timber sale contracts in the Western States provide for stumpage rate adjustment based on wholesale lumber price indices. These adjustments help to ensure that the public receives a reasonable price for its timber. They also permit economic operation of sales over a full term of normal market cycles, thus helping to stabilize the local economies.

4. Briefly, describe the timber sale appraisal process. What is the rationale for its use?

The Forest Service uses two basic appraisal systems. Transaction evidence appraisals, used in the Eastern and Southern Regions and being tested in the Northern Region, use data developed from bidding on other National Forest timber sales to establish the appraised value of a sale. Residual value appraisals are used in the West. Residual value appraisals are analytical processes which start with an estimate of the value of products which can be produced from a sale. The estimated costs of an operator of average efficiency to produce the products, plus a margin for profit and risk, are subtracted from the selling values. The residual value, i.e., Selling Value - Cost and Profit = Appraised Value, is the appraised value of the sale.

The rationale for using the residual value method of appraisal is that it provides for a stable industry with an adequate profit opportunity to compete for needed investments in the long run.

5. How is the fair market value assured by a system which often provides timber values half or less of the market value?

Residual value appraisals are based on the proposition that timber is worth the selling value of the products manufactured from it, minus costs of production and a margin for profit and risk to the purchaser. Appraised value is based on the operator of average efficiency and is aimed at a market value which will interest sufficient purchasers to harvest the allowable harvest under multiple use and sustained yield principles. In accomplishing this objective consideration is given to providing an opportunity to earn a margin for profit which will be sufficient to maintain operations over the long run and thus provide a stable market for National Forest timber.

Bid values may exceed appraised values for a number of reasons; such as:

Local conditions of supply and demand for National Forest timber.
Preemptive bidding.
Entrance or bonus bidding.
Income tax considerations.
Supplies of private timber.
Bidding by operations having superior merchandising or manufacturing facilities.

The open bidding process for National Forest timber helps to assure that the public receives market value for its timber.

6. What are the limitations and benefits of using transaction evidence appraisals?

Transaction evidence appraisals use data from the sales of comparable tracts of timber as the basis for establishing the appraised value. Because of the inherent variability of timber stands, it is often difficult to obtain sufficient transactions representing conditions comparable to a sale being appraised. In order to deal with this problem, factors must be developed to adjust for the variability among stands and where the variability is great the system can become quite complex. A major benefit of the transaction evidence appraisal system is that many factors which influence bidders which are not subject to analytical procedures can be recognized. Thus the system reflects bidder expectations of future markets and other factors which influence bidding. While this is a benefit of the system, it can also lead to problems as witnessed by the extreme bidding which took place in the late 1970 based on bidder expectations which did not materialize.

7. Are timber appraisals needed at all? Why not use them only where competition is low or nonexistent?

Timber appraisals are made to assure that sales are offered at not less than appraised prices, as required by law.

It needs to be recognized that even in our most competitive areas there are sales from time to time which receive only one bidder. It is not possible to predict, with certainty, whether or not there will be competition on a sale.

8. How does the volume and value of timber harvested compare to the volume and value of timber sold?

On the whole, the volume of timber harvested from National Forest timber sales compares quite favorable with the volume of timber sold. Various studies have shown that on the average, volumes harvested are within a percent or two of volumes sold. Unfortunately, the variation on individual sales often falls outside this range.

Because of the time which elapses between when a sale is sold and the time of harvest, there may be substantial differences between the value sold and the value harvested. Stumpage rate adjustments, rate redeterminations, and other factors can cause differences. As a rule during rising markets the value harvested will exceed the value sold and during falling market the value harvested will be less. The Forest Service is developing procedures for comparing these values and explaining the differences.

9. Many sales contracts in Regions 5 and 6 are based on the volume harvested. How accurate are the scalers?

We believe that scaling of National Forest timber is accurate. All scalers, whether employed by the Forest Service or by third-party scaling organizations are regularly checked by Forest Service check-scalers. Standards are as follows:

(1) Two percent of check scale on logs up to 10 percent defective.

(2) Three percent of check scale on logs 11 to 20 percent defective.

(3) Five percent of check scale on logs over 20 percent.

A scaler must be able to meet these standards to qualify to scale National Forest timber. If he is found to be scaling outside these limits corrective action is taken.

10. What biases are built into scaling?

There are no known biases built into scaling.

It should be understood that if there were biases built in they would be reflected in costs and selling values obtained from operators and thus would tend to be corrected by the appraisal.

11. The BLM does not base its sales on scaling. Why is the BLM system not used by the Forest Service? What are the benefits and drawbacks to switching to the BLM system?

The Bureau of Land Management bases the volume on which payment is made on an estimate of the volume in standing trees. The Bureau sells about 1.2 billion board feet of timber annually using the tree measurement system.

The Forest Service uses both tree measurement and log scaling. In FY 1984, the Forest Service sold approximately 2.6 billion board feet or 24 percent of its sales by tree measurement, i.e., the system used by BLM.

Log scaling is the traditional form of timber selling in the West, both by private parties and public agencies. This system predominates today because most of the timber being sold is old-growth which is often highly defective. The effects of internal defect can be more accurately estimated when the ends of logs can be observed than in the standing tree.

Tree measurement has the advantage of reducing concern about log accountability, although on the West Coast accountability for export control is still required. It also tends to create an incentive for better utilization since there is no additional charge for removing more wood fibre from the logging area.

Tree measurement has higher risk for both the seller and the buyer. But the BLM experience shows this can be manageable. Tree measurement, also, requires a substantial upfront expense in increasing the accuracy of volume estimates of the standing trees. While no accurate data is available, it would appear that costs of tree measurement sales may exceed the costs of log scaling in many situations, particularly where weight scaling or sample weight scaling is an option.

The Forest Service believe there are opportunities to expand the use of tree measurement sales in many Western Forests and is working toward that objective.

12. Breakout the components (standards and practices of the timber sales program). What are the relative costs associated with each component?

The components of the timber sale program and the average per thousand board feet (MBF) unit costs are (in 1982 dollars):

1. Sales Preparation and Administration - $8.16/MBF
This includes:

1) stand examination
2) presale planning
3) feasibility analysis
4) environmental analysis and report
5) timber cruising and marking
6) timber sale appraisal
7) contract preparation
8) advertisement and award
9) contract administration
10) scaling (Regions 1-4)

2. Resource Support to Timber Sales - $8.06/MBF
This includes coordination and work in the following areas:

* 1) range coordination
2) minerals coordination
* 3) recreation coordination and landscape management
* 4) wildlife and fisheries coordination
5) soil and water coordination
6) fire presuppression support
* 7) road rights-of-way acquisition

- * 8) land line location and establishment
- * 9) insect and disease control
- 10) cooperative work management
- 11) fuels management
- * 12) facilities construction and maintenance

3. Engineering Support - $11.64/MBF
   This includes:

   1) road maintenance
   2) road location
   3) road survey and design
   4) construction administration

Total Average/MBF $27.86/MBF

* The Forest Service currently has a task force working, in response to direction in the Conference Report on the FY 1985 Appropriations Act, on how these costs should be allocated in a timber sale program cost accounting system.

13. Could particular components be modified or eliminated to reduce costs?

Yes, we expect that costs can be further reduced. We are implementing actions at the present time which resulted from our Productivity Improvement Team recommendations. As we proceed with their implementation, we do expect further cost reductions.

14. How are base rates for timber determined?

Base rates are a timber sale contract provision. Base rates represent the lowest prices which can be paid under the terms of a contract. Generally base rates are set at $1 per thousand board feet for low value species; $5 per thousand for moderate value species; and $10 per thousand for high value species. Base rates are increased where necessary to assure collection of adequate funds to cover the cost of regenerating the area to be cutover.

15. Does the base rate assure an adequate return to the Government? Should the base rate be specifically related to Government return?

The base rate was originally intended to recover direct cost of sale preparation and administration. Currently its primary function if to assure collection of adequate K-V deposits to cover the cost of reforestation.

The Forest Service is considering a policy which would set the minimum advertised price for its regular timber sales at a level which would cover the cost of sale preparation and administration. The minimum price rather than the contract base rate is the appropriate place to implement such a policy.

16. Is it possible for the Government to have a negative gross income from timber sales, considering road credits and county payments?

It is theoretically possible. However, since World War II the Forest Service has maintained a very favorable return on its timber sale program.

17. How often are sales bid by only one bidder? Where and why does this occur?

A substantial number of sales are sold with only one bidder. Every Region has one-bidder sales; however, such sales tend to be concentrated in the geographically isolated areas of the Rocky Mountains. One-bidder sales may reflect lack of competition. In some areas of the Rockies there is only one mill within economical haul distance of a National Forest area. Other one-bidder sales reflect limited markets for particular species or grades of timber.

18. Does the Government receive an adequate return on one bidder sales? Does the Government receive "fair market value" on one bidder sales?

The general answer is yes, to both questions. If the residual value appraisal system is adequately maintained it will provide a reasonable estimate of fair market value.

It should be understood why we have competition in some areas and lack of competition in others. As a rule in a free market economy there will be more competition in areas with the greatest profit opportunity and less in areas with lower profit opportunity. Factors such as the availability of transportation to potential markets and its cost as compared to other sources of wood products, the scale of the industry, length of logging season and other factors determine the potential profitability of operations in various geographic areas.

III. The Timber Cost Accounting System

1. How does the current cost accounting system — PAMARS — track the various timber sale cost elements? What is the accuracy of this information?

The Program Accounting and Management Attainment Reporting System (PAMARS) is the prescribed accounting system for the Forest Service. The PAMARS is a component of the Department of Agriculture's Central Accounting System and utilizes the facilities at the National Finance Center (NFC). It serves as our focal point for the accumulation, recording, and reporting of our financial data, including the timber sale program. PAMARS is integrated with our uniform work planning system. Basic work plans are developed at all organizational levels. These project based work plans identify the funds to be utilized (program budget) and the targets to be accomplished. A unique 6-digit "management code(s)" is assigned to the individual project work plan. The management code is then used for all payments and collections affecting the project. All upward reporting is a summary of each management code's activity.

There is a direct link between PAMARS and our Program Budget. At the beginning of each fiscal year, the codes are established in the computer at the NFC to tie the codes with the "traditional" accounting (such as the appropriation, decision variable, MIH code, and function). Payments or collections cannot be processed without a valid management code. The tracking of the various timer sale cost elements and other elements are accomplished by using various PAMARS accounting reports distributed monthly by the NFC.

We believe the information in PAMARS is reasonably accurate. As part of the review and certification of accounting systems required by Section 4 of the Federal Managers Integrity Act of 1982, we have determined that the system conforms to the principles, standards, and related requirements of the Comptroller General.

2. Have any audits been conducted to examine the PAMARS data?

There have been no external audits conducted to examine the PAMARS data. However, the Forest Service has a Management Review process where portions of the accounting systems and/or financial management systems are periodically reviewed at Regional and field locations to determine compliance with national direction and standards.

3. Can the current system be adjusted to provide the information necessary to examine both timber sale cash flows and timber sale economics? What are the limitations that prevent this system from providing such information?

This question is being addressed by the task force on Timber Sale Program Accounting which was established in response to the Congressional direction that accompanied last year's appropriations bill. The report from that task force is expected March 1, 1986.

4. What cost information have you identified as necessary to examine the timber sale program?

Same as 3

5. Should cost and revenue data be developed for examining cash flows?

Same as 3

6. How are the following programs being treated in the proposed Timber cost accounting system: the noncommercial timber sales? reforestation and other timber investments? road construction and maintenance and other multiple-use investments?

Same as 3

7. How are the above treated for the 1986 budget?

Spending in these categories is shown as line items in the standard program components of the program budget related to timber management. Each line item can be identified by appropriation, function, MIH code and program component.

IV. Community Stability and Forest Planning

1. How do you define community stability?

Community stability is defined in FSM 1970.5 as the "capacity of a community to absorb and cope with change without major hardship to institutions or groups within the community." In the context of this hearing, it basically means that change in resource supply is planned to have minimal adverse effect on local community stability.

2. What is the Forest Service's role in providing community stability?

The role of the Forest Service is to insure the types and rates of change proposed in current planning efforts are consistent with the community's capacity and desire to survive change. Drastic alterations at the expense of communities are normally avoided.

3. Do you have any statutory mandate or guidance on this subject? Regulations?

There are no specific laws that require maintainance of community stability across the National Forest System. However, the Secretary of Agriculture is authorized to cooperate with interested local governmental agencies in development and management of the National Forests (MUSY Act of 1960, Sec. 3). The National Environmental Policy Act in Section 101(a) states it is the policy of the Federal Government to use all practicable means to fulfill the social, economic, and other requirements of present and future generations of Americans. NEPA and its implementing regulations also require a statement of the environmental impact, including social and economic effects, of a proposed action on individuals and their communities. The Renewable Resources Planning Act, as amended by the National Forest Management Act, requires forest plans to be reviewed in the vicinity of the affected unit to foster public participation. In addition, there are a couple of laws that specifically provide for promoting local community and dependent industry stability. Chief among these are the Sustained Yield Forest Management Act of March 29, 1944 and the Alaska National Interest Lands Conservation Act of December 2, 1980.

Two seperate regulations address the issue of community stability. First is the direction found in 36 CFR 219.16 (a)(3)(iii) that requires an evaluation of departure from the base sale schedule if that schedule would cause a substantial, adverse impact upon the local community. The second is found in 36 CFR 221.3 (a)(3) that requires an even flow of timber to facilitate stabilization of communities and opportunities for employment.

4. How do you reconcile demands between your sustained-yield and multiple-use mandates?

The Multiple-Use Sustained-Yield Act of 1960 requires the Secretary of Agriculture to develop and administer the renewable surface resources of the National Forest for multiple use and sustained yield. There is no major emphasis given one term over the other. The Act recognizes that some land will be used for less than all of the resources. The "reconciliation" then is to plan for that combination of resource uses that seems to best meet the public's needs and provides the greatest net public benefit in an environmentally sound manner.

5. How do you reconcile demands when a community is both timber and recreation oriented?

Multiple use planning requires that activities and uses achieve a degree of compatibility through a balancing of demands rather than placing emphasis on one over the other. Recreation use, to include hunting and hiking, can obviously take place in areas where timber is harvested. Likewise, some resources such as wildlife can be enhanced by other resource uses such as vegetation manipulation. The real challenge in management of the National Forests is not always in finding ways to reconcile demands but in finding ways to manage one resource to achieve benefits for others. Experience has shown that communities oriented to both timber and recreation recognize each other's existence and in fact support the other in achieving community stability. Through Forest planning such demands should be reconciled.

6. Does forest planning begin or end with public comment?

Forest planning is continuous and so is public comment. In fact, public feedback on all aspects of National Forest management is ongoing. As planning begins, we seek public comment to provide focus to identify the problems to be addressed by planning. After a series of management alternatives is prepared in response to public involvement, the public is asked to review and comment on the draft environmental impact statement. Further revision may then take place, resulting in a final statement and decision to proceed with a course of action. Because the decision is an administrative decision, it is appealable by the public under the administrative appeal procedure.

7. How do you consider impacts on nearby communities when making land use allocation decisions? Do you consider impacts on timber-related industries or other industries as well, such a tourism, guiding, hunting, fishing?

The potential social and economic impacts upon the local communities as well as upon the economy as a whole are analyzed in the environmental impact statement accompanying the proposed forest plan. All resources and dependent industries are evaluated to determine the best mix of resource uses to plan for in achieving the greatest public benefit.

8. If timber was not harvested in areas where costs exceed sale revenues, what would be the impact on local communities in terms of employment in the timber industry, recreation industries, and any other associated market?

Timber industry employment would be reduced if timber was not harvested in areas where costs exceed sale revenues and where the primary source of timber was the National Forest. The amount of roads constructed in support of the timber program that the recreation user relied upon would be reduced. As a result, less wildlife would be harvested and perhaps the number of big game animals would face a reduction if essential habitat were not maintained through a timber harvest program.

9. Does the planning model often recommend a timber-oriented land management program in areas where a majority of public want a more recreation oriented program?

First, the planning model does not recommend anything. The model simply responds to fulfilling multiple objectives and helps in analyzing the various ways to manage the land and resources. If the planning model is focusing on the greatest dollar return for marketable products in areas where timber values are high, it may very well identify a timber oriented program. However, the Multiple-Use Sustained-Yield Act recognizes that management does not always produce the greatest dollar return or the greatest unit output. Therefore, it is the task of the responsible line officer to decide on a course of action based not only upon the economic analysis revealed through the planning model, but also upon the needs and desires of the public.

10. Do you use the RPA benefit values in NFMA planning?

Yes, they are assigned as values in instances where no other values have been determined.

11. What values do you use at the local planning level? How are they derived and how do they relate to RPA? What values are actually assigned to each of the major outputs?

The Forest Service uses two different kinds of values - market and nonmarket. Market values are actual amounts based on local experience. They reflect revenues recorded for market products over a given period of time. Assigned values are derived from the RPA Program at the regional level and are used at the local level to represent those goods and services for which a local dollar value is not available. They represent a willingness to pay for a specific product. Assigned values are adjusted only if specific studies indicate the need for change and are subsequently approved by the Chief. Values approximate the RPA Program through an aggregation of National Forest totals to the national level. Values that are actually assigned vary on a forest by forest basis.

12. Have you looked at the present net value of keeping areas unroaded? What results if any? What values were used to measure benefits?

Many, if not all National Forest plans provide roadless area prescriptions for various segments of land. The values of hunting, fishing, and hiking are recognized even though it is difficult to determine present net value for values that are non-quantifiable. We do provide for a variety of uses on a forest by forest basis in response to public demands.

13. What analyses do you use other than economic to evaluate your management actions? How are these integrated into a plan?

Management actions are evaluated on their potential contribution to social well being, their responsiveness to public issues and concerns, and their impact upon the physical and biological environment. The effect upon all other surface renewable resources must and is always evaluated when planning for specific management actions. These "other" factors are integrated into the plan through full disclosure in the environmental impact statement and through the record of decision that documents the responsible official's decision.

14. How do you use your input-output model, IMPLAN, in making land management decisions? How reliable are these results?

The IMPLAN model is used to understand the impacts of economic tradeoff analysis and in particular the effects upon local community stability. This input-output model is used to look at employment, jobs by various sectors, salaries, and induced or secondary employment benefits. The results are as reliable as the data supplied by the various counties and states involved in building the model. Sometimes the results are very reliable while in other instances, a fair amount of adjustment is necessary to reflect the actual circumstances.

15. How do you evaluate the trade-offs among the multiple uses of an area that is roaded or unroaded? What economic or other value do you place on accessibility of an area for timber harvesting? for recreation? for management projects?

Tradeoffs in the case of either roaded or unroaded areas are evaluated based on their ability to meet management objectives and upon the total costs of managing the areas and the total benefits to be derived. Present net value is determined when feasible as a part of the determination of net public benefits. Economic values, both derived and assigned, are used along with a determination of other non-quantifiable values in looking at tradeoffs. Accesssibility in a particular area where there are timber values will enhance the value of the resource since the cost for access is not a factor or at least a smaller factor than in an unroaded area. Some types of recreation will benefit from the road's existence while other types will not. Driving for pleasure, access to a potential campground, and a road into a valley where a potential ski area exists will be enhanced when access exists. In areas where the recreation potential is centered around roadless types of recreation, the presence of roads will reduce or eliminate the opportunity. Projects that require accessibility will likewise be enhanced with the presence of roads.

United States
Department of
Agriculture

Forest
Service

WO

Reply to 1510

Date APR 10 1985

Honorable Charles O. Whitley
Chairman, Subcommittee on Forests,
  Family Farms, and Energy
Committee on Agriculture
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

As requested at the recent hearing on the "Economics of Federal Timber Sales," here is our response to a number of questions that have been asked by members of the Subcommittee subsequent to the hearing.

Also included are followup responses to two questions asked previous to the hearing that required further data that were not available earlier.

We appreciate the opportunity to provide this information to the Subcommittee and would be pleased to respond to any additional questions that you might have.

Sincerely,

for R. MAX PETERSON
Chief

Enclosure

QUESTIONS FROM FEBRUARY 26TH, 1985, HEARING ON BELOW COST SALES HOUSE AGRICULTURE SUBCOMMITTEE ON FOREST, FAMILY FARMS, AND ENERGY

CHAIRMAN WHITLEY

W1. QUESTION: HOW DO ROAD CONSTRUCTION COSTS COMPARE BETWEEN THE FOREST SERVICE AND PRIVATE INDUSTRY IN THE U.S.? IF YOU DON'T KNOW, THEN HAVE ANY STUDIES EVER BEEN ATTEMPTED?

ANSWER: We do not know how road costs compare. To our knowledge no studies have been made to compare construction costs of Forest Service roads and roads built in similar terrain and for similar reasons by private industry in the U.S.

W2. QUESTION: WHAT WOULD BE THE EFFECT ON PAYMENTS TO COUNTIES IF WE WENT TO A SYSTEM WHERE ALL ROADS WERE BUILT WITH APPROPRIATED FUNDS?

ANSWER: Since county receipts are based on "gross receipts" at this time, it generally makes no difference whether roads are built as a part of the timber sale contract by the purchaser or by appropriated funds outside the timber sale contract.

W3. QUESTION: HOW DO THE COSTS OF BUILDING PURCHASER CREDIT FINANCED ROADS COMPARE WITH THE COSTS OF BUILDING ROADS WITH APPROPRIATED FUNDS?

ANSWER: Purchaser credit financed roads are estimated to be 10 percent less. This differential is due to the difference in the Davis-Bacon wage rates required in public works contracts and the prevailing wage rates for woods workers paid under purchaser credit construction.

W4. QUESTION: ARE APPROPRIATED FUNDS EVER USED TO BUILD ROADS FOR PURPOSES OTHER THAN TIMBER SALES? HOW OFTEN?

ANSWER: Yes, the funds are used to construct general purpose and other resource roads such as recreation and fire access roads. This amounts to 5-8 percent of the annual road construction program.

W5. QUESTION: IN RESPONSE TO THE WRITTEN QUESTIONS YOU OUTLINED A NATIONAL ASSESSMENT OF ROAD PLANNING AND DESIGN TO STUDY REDUCTIONS IN ROAD BUILDING COSTS. ELABORATE ON YOUR PLANS FOR THIS STUDY.

ANSWER: The National Assessment of the Roads Planning and Design Process was conducted in 1983-84. Each Forest Service Region identified their most significant underlying causes for inappropriate road investments and has prepared action plans. Five common problems were identified by most Regions and have therefore been included in a national action plan. An interdisciplinary team has been assigned to each problem to develop corrective action. The five national problems are:

a. Determining and documenting resource and road management objectives necessary to plan and develop the transportation facility to meet resource needs.

b. Scheduling of activities affecting road projects.

c. The consideration of economics in decision making.

d. Designing roads to serve management objectives.

e. Road/Logging system planning.

W6. QUESTION: ALSO IN RESPONSE TO WRITTEN QUESTIONS YOU STATED THAT ADDITIONAL INVESTMENTS IN PRIVATE NON-INDUSTRIAL FOREST LANDS WOULD HELP REDUCE PRESSURE TO ACCESS ADDITIONAL ROADLESS AREAS. WHAT IS THE BEST WAY TO STIMULATE INVESTMENTS ON THE PRIVATE NON-INDUSTRIAL FOREST?

ANSWER: Economic recovery, with a strong steady demand in the lumber market.

W7. QUESTION: PLEASE UPDATE THE SUBCOMMITTEE ON THE IMPLEMENTATION OF THE FEDERAL TIMBER CONTRACT PAYMENT MODIFICATION ACT. DO YOU HAVE ANY IDEA HOW MANY FIRMS WILL TAKE ADVANTAGE OF THE ACT? HOW MUCH VOLUME WILL BE RETURNED? WILL THE CAP ON NEW SALES IN REGION 6 ACTUALLY BE USED?

ANSWER: (1) We expect approximately 400 firms to take advantage of the Act. (2) We expect that about 1/3 of the current uncut volume under contract may be returned, 9-10 billion board feet. (3) We expect the buy out volume to be high enough so the cap will not be a limiting factor, and therefore not used.

W8. QUESTION: RECENTLY I HAVE RECEIVED LETTERS FROM TIMBER RELATED FIRMS IN THE NORTHWEST WHO ALLEGE THAT BIDDING IN THEIR AREA REMAINS UNREASONABLY HIGH AND IS INCREASING. CAN YOU COMMENT ON THIS?

ANSWER: The current level of bidding is well below the high period of 1979-80. The competition is still heavy and the bidding may be higher than the purchasers may have expected but the current level is well below the 1979-80 level. The current contracts are generally of shorter duration, require periodic payments and an increased initial payment. These changes will affect each purchaser differently and this will be reflected in their bidding, resulting in values that may be different than what was experienced in the past.

W9. QUESTION: IN RESPONSE TO WRITTEN QUESTIONS YOU SAID THAT ROAD COSTS ARE NOT THE OVERRIDING REASON FOR BELOW COST SALES. SOME MIGHT TAKE ISSUE WITH THIS STATEMENT. WHAT IS THE MAJOR REASON?

ANSWER: As used in the current debate, below cost sales are sales in which receipts for the timber do not cover Forest Service costs. Receipts for timber are basically a function of product selling values less costs of production. Either low product selling values or high costs can contribute to low receipts. Since 1980, product selling values, for lumber and plywood, have been seriously depressed. Prices fell substantially with the collapse of the housing market. They have not recovered because of a general oversupply situation in the North American market. This situation has been aggravated in the U.S. by the competitive advantage Canadian producers enjoy because of the strong U.S. dollar. Road costs are an important element of production costs, but they are not the only element. In the Northern Rocky Mountain Appraisal Zone, for example, the following is a breakdown of the average costs of production.

Logging	41%
Specified road costs	14
Manufacturing costs	45
Total	100%

Costs have risen dramatically in all categories in the last decade. However, in the last four years, road costs have been reduced about 20%.

Both the selling values which can be realized and the costs of production are affected by the conditions of the timber stands to be harvested. As a general rule, timber stands in areas with significant numbers of below cost sales currently have volumes significantly below what they can be expected to produce under management. Thus their selling values are lower and production costs higher than are anticipated in the future.

W10. QUESTION: PLEASE ELABORATE ON THE DEVELOPMENT OF A PROPOSAL TO MAKE THE TIMBER SALES PROGRAM MORE RESPONSIVE TO THE MARKET FOR FOREST PRODUCTS WHICH YOU OUTLINED IN RESPONSE TO ONE OF THE WRITTEN QUESTIONS SUBMITTED.

ANSWER: The proposal is still being evaluated and no decision has yet been made on any of the considerations. The possible change for this one would provide that in areas of low timber values volumes actually offered for sale during periods of low demand would be reduced in proportion to anticipated reductions in harvest levels. The planned reductions would not reduce the volume actually offered for sale below 70 percent of the financed target. Volumes not offered would be fully prepared and held "on the shelf" for offering during future periods.

W11. QUESTION: ELABORATE ON YOUR CONSIDERATION OF A NEW POLICY TO REDEFINE THE MINIMUM ADVERTISED PRICE FOR SELLING FEDERAL TIMBER. WHY IS THIS REDEFINITION NEEDED IF THE APPRAISAL SYSTEM ALREADY INSURES A FAIR RETURN TO THE GOVERNMENT AS YOU HAVE PREVIOUSLY STATED?

ANSWER: We are still in the process of determining what additional direction may be needed to address "below cost sales." Currently under discussion in our considerations is direction that would establish a minimum average advertised price for regular commercial timber sales to cover the previous 3-year's average cost of sale preparation and administration. This proposal would not replace the normal appraisal, but rather, would set a floor below which the timber would not be sold. Exceptions to this proposed minimum price policy would be authorized for salvage sales, sales made to achieve identified multiple use objectives and sales necessary for local community stability.

CONGRESSMAN STALLINGS (ID)

S1. QUESTION: ARE ENVIRONMENTAL ASSESSMENTS PERFORMED ON ENTIRE ROAD SYSTEMS IN A SPECIFIC NATIONAL FOREST IN CASES WHERE ROADS ARE CONSTRUCTED IN SEGMENTS? ARE CUMULATIVE IMPACT STUDIES PERFORMED FOR ROAD BUILDING ACTIVITIES UNDERTAKEN IN STAGES?

ANSWER: An analysis is preformed on the network of roads in the area affected by a project. The size and scope of the analysis depends on previous analyses already completed, potential issues and concerns, and the nature and significance of the physical, biological and economic effects. Based on this network analysis, road projects are selected to achieve the management area direction. Such an analysis looks at the overall effect in the area even though the road building will take place in stages. The analysis becomes a part of the resource activities environmental assessment or environmental impact statement.

S2. QUESTION: AT WHAT LEVEL IN THE FOREST SERVICE INFRASTRUCTURE ARE OVERALL ROAD BUILDING PLANS FOR SPECIFIC FORESTS KNOWN? AT THE REGIONAL FORESTER LEVEL OR DISTRICT LEVEL PERHAPS? HOW ARE PUBLIC REVIEW AND COMMENTS ACCOMMODATED IN THIS PROCESS?

ANSWER: Overall road plans are finalized at the Supervisor's office (SO) level. The projects, including roads, are initiated at the District level and EA's, EIS's, and reviews are handled by an interdisciplinary team of SO and District Staff. Public review and comments are accommodated as a part of the NEPA process for the Project Design and the Forest Plan.

S3. QUESTION: WHICH REGIONS HAVE OVER THE PAST FIVE YEARS, EXPERIENCED DEFICIT TIMBER SALES USING THE FOREST SERVICE'S CURRENT COST ACCOUNTING SYSTEM?

ANSWER: All Regions have experienced below cost sales.

S4. QUESTION: ISN'T IT TRUE THAT REGION 1, COVERING NATIONAL FORESTS IN NORTHERN IDAHO AND MONTANA, HAS EXPERIENCED RECORD BELOW COST TIMBER SALES?

ANSWER: Due to continued depressed market condition Region 1 has experienced an extended period of below cost sales.

S5. QUESTION: WHAT ARE THE MAIN FACTORS CONTRIBUTING TO THESE DEFICIT SALES? THE COST OF ROAD BUILDING ACTIVITIES?

ANSWER: As used in the current debate, below cost sales are sales in which receipts for the timber do not cover Forest Service costs. Receipts for timber are basically a function of product selling values less costs of production. Either low product selling values or high costs can contribute to low receipts. Since 1980, product selling values, for lumber and plywood, have been seriously depressed. Prices fell substantially with the collapse of the housing market. They have not recovered because of a general oversupply situation in the North American market. This situation has been aggravated in the U.S. by the competitive advantage Canadian producers enjoy because of the strong U.S. dollar.

Road costs are an important element of production costs, but they are not the only element. In the Northern Rocky Mountain Appraisal Zone, for example, the following is a breakdown of the average costs of production.

Logging	41%
Specified road costs	14
Manufacturing costs	45
Total	100%

Costs have risen dramatically in all categories in the last decade. However, in the last four years, road costs have been reduced about 20%.

Both the selling values which can be realized and the costs of production are affected by the conditions of the timber stands to be harvested. As a general rule, timber stands in areas with significant numbers of below cost sales currently have volumes significantly below what they can be expected to produce under management. Thus their selling values are lower and production costs higher than are anticipated in the future. The cost of road building activities has actually declined, as shown above. The cost of road building is, in some cases, a major cost of selling timber. In most cases, roads serve areas where several future timber sales will be made. Therefore, the total cost of roads should not be charged against the first sale entry. Rather, the road costs should be charged against the total timber volume that will be hauled over these roads during the life of the roads. This issue of financial treatment for roads is being addressed by the task force assigned to National Timber Sale Program Accounting System.

S6. QUESTION: IF SO, ARE THESE REGION 1 SALES EXPECTED TO SHOW NET BENEFITS OR PROCEEDS SEVERAL DECADES DOWN THE ROAD AS HAS BEEN DEMONSTRATED HERE TODAY IN THE CASE OF THE DEER PEAK SALE?

ANSWER: Yes. Many below cost timber sales in R-1 take 1 to 3 decades before cash flows are positive, because of the heavy first decade investment in roads.

S7. QUESTION: ARE THERE ANY AREAS IN THE NATIONAL FOREST SYSTEM CURRENTLY SCHEDULED FOR ROAD CONSTRUCTION WHICH HAVE NOT BEEN "RELEASED" FROM FURTHER STUDY AND POSSIBLE WILDERNESS DESIGNATION?

ANSWER: There are situations where we are continuing project activities in unroaded areas; however, this is limited to those areas that have been identified as nonwilderness from RARE II or through our land management planning process. Some of the areas have not been "released" through legislation. To understand this response, it is important to first provide some background to clarify the status of National Forest roadless lands. Of the total 191 million acres of National Forest System land, approximately 45 percent, or 85-90 million acres, are roadless. Of this acreage, 32.1 million acres had been designated as wilderness by the end of the 98th Congress.

The wilderness review process was originally mandated by the Wilderness Act of 1964. Over the past twenty years considerable analysis and evaluation have been done to make determinations of wilderness suitability of roadless lands.

The most significant of these efforts was the Second Roadless Area Review and Evaluation (RARE II). It was completed in 1979 when the final recommendations were submitted to the Congress by the President. This RARE II process involved inventory, evaluation, and decision on 62 million acres of roadless lands. Previous to RARE II, 15.3 million acres had already been designated wilderness, approximately 2.7 million acres had already been recommended for wilderness from previous reviews, and nearly 8.3 million acres had evaluated and cleared through unit plans. None of these roadless lands, over 26 million acres, were evaluated in RARE II.

From 62 million acres in RARE II, 15.4 million acres were recommended for wilderness making the total wilderness supported by the Administration in 1979 just slightly over 18 million acres (including the 2.7 million acres recommended before RARE II). Of the remaining 62 million acres of lands inventoried and evaluated in RARE II, it was decided that 10.6 million acres required further planning before a recommendation could be made. In addition, the Congress was advised that approximately 36 million acres had been found to be not suitable for wilderness and the decision was made that those lands should be available for multiple uses other that wilderness. These lands came to known as the RARE II nonwilderness category.

Unless otherwise directed by the Congress, lands that were recommended for wilderness have been and are being managed to protect their wilderness suitability. Approximately 14.9 million acres of the recommended 18.1 million acres have already been designated by the Congress. (Approximately 2.2 million acres of the remaining 3.2 million acres is located in Idaho, Montana, and Nevada.) Likewise, the wilderness suitability of Congressionally mandated wilderness study are also protected unless otherwise directed by Congress.

The wilderness suitability of lands in further planning from RARE II is also protected until the planning is completed or until Congress releases those lands for nonwilderness. If through this planning, specific lands are recommended for wilderness, they are managed to protect their wilderness suitability. If on the other hand these further planning lands are found to not be suitable for wilderness, they are made available for nonwilderness uses. Most further planning is being done as a part of Forest planning being done under the National Forest Management Act.

For the nonwilderness category, the decision had been made that these lands should be managed for nonwilderness multiple uses and based upon that decision, we have proceeded with management activities following careful planning and analysis. As a result of the Ninth Circuit Court decision in California v. Block in 1982, we undertook a reevaluation of wilderness suitability on roadless areas unless released from having to do so by Congress. This reevaluation has been and is being done through Forest Planning. In States that have not had wilderness bills and have not been released, we are continuing to reevaluate wilderness suitability. Based upon the RARE II decision, we have continued to plan and initiate activities on these nonwilderness lands. Some activities may be deferred if Congress is actively considering legislation that would make a special designation for nonwilderness lands.

S8. QUESTION: WHAT IS THE SITUATION IN IDAHO WHERE NEARLY 9 MILLION ACRES ARE STILL CLASSIFIED AS ROADLESS AND HAVE NOT BEEN RELEASED FOR MULTIPLE USE OR DESIGNATED AS WILDERNESS?

ANSWER: In Idaho, there are approximately 9.5 million acres of roadless lands, not including the 3.8 million acres of presently existing wilderness. As a result of RARE II and other review and planning previous to RARE II, approximately 3.4 million acres were recommended for wilderness, 641,000 acres were identified for further planning and approximately 7.8 million (4.8 million for RARE II and 3.0 for unit plans) acres were determined to be most suited for non-wilderness uses. Subsequent to that time, 2.3 million acres have been designated wilderness (included in the 3.8 million mentioned above).

The wilderness suitability of the remaining RARE II wilderness recommendations (1,034,700 acres) and further planning not yet completed (640,654 acres) is still being fully protected. From RARE II, these are "still tied up." As discussed in response to question S7, the wilderness suitability is being reevaluated in Forest planning for all roadless lands. For Idaho, the Forest plans are now becoming available for public review and in the next six months or so, all draft Forest plans will most likely be available.

Project activities are only occurring on those lands identified for nonwilderness uses from RARE II or other planning. These projects are only done after full planning and environmental assessment.

S9. QUESTION: I UNDERSTAND THAT SEVERAL KEY AREAS IN IDAHO ARE BEING SCHEDULED FOR ROAD CONSTRUCTION EVEN THOUGH THESE AREAS ARE IN ESSENCE STILL TIED UP IN THE RARE II PROCESS. IS THIS TRUE?

ANSWER: No, we are not initiating road construction on lands tied up in the RARE II process. As explained in the answer to question S-7, we are proceeding with some development in nonwilderness RARE II lands where Congress is not actively considering wilderness legislation. As Forest plans and roadless evaluations are completed, more roadless lands not recommended for wilderness will likely be scheduled for development activity.

CONGRESSMAN MARLENEE:

M1. QUESTION: CHIEF PETERSON, YOU REFER AT THE BOTTOM OF PAGE 7 OF YOUR TESTIMONY TO A POLICY UNDER CONSIDERATION WHICH WOULD LIMIT INCREASES IN THE TIMBER SALE PROGRAMS WHERE THERE HAVE BEEN UNFAVORABLE COST-REVENUE RELATIONSHIPS IN THE PREVIOUS FIVE YEARS.

AS YOU KNOW, IN REGION 1 IN 1972 THERE WAS A EARLY SIGNIFICANT DROP IN PUBLIC LAND SALES, AND THAT MORE PUBLIC LANDS SALES MAY BE REQUIRED IN THE FUTURE. CHIEF, I HOPE YOU WILL BE FLEXIBLE IN IMPLEMENTING ANY NEW POLICY LIMITING INCREASES IN TIMBER SALE! DO YOU INTEND TO BE FLEXIBLE IN ANY NEW POLICY? WOULD THE SITUATION IN DISTRICT ONE QUALIFY AS AN "OVERRIDING" CONSIDERATION?

ANSWER: The policy being considered and referred to is still tentative. No decision has been made. The policy being looked at would provide a procedure for increasing sales where warranted and appropriate.

M2. QUESTION: CHIEF PETERSON, MY STAFF AND I ARE IN RECEIPT OF A RECENT DECISION BY THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUT FIELD FEBRUARY 11, 1985. THIS CASE IS THAT OF HAROLD THOMAS VS. MAX PETERSON, CHIEF OF THE U.S. FOREST SERVICE AND THE INLAND FOREST RESOURCE COUNCIL, A MONTANA CORPORATION, AMONG OTHERS. THIS CASE INVOLVES ROAD BUILDING IN THE "JERSEY JACK" AREA OF THE NEZ PERCE FOREST IN IDAHO. I DO NOT BELIEVE YOU WERE PREVIOUSLY ASKED ABOUT THIS IN THE QUESTIONS GIVEN TO YOU BY THIS SUBCOMMITTEE, I WOULD LIKE YOU TO ADDRESS YOURSELF TO THE IMPACT OF THE NATIONAL FOREST MANAGEMENT ACT OF 1976 ON THE TIMBER SALES BELOW COST ISSUE, AND SPECIFICALLY WHETHER YOU FEEL THE THOMAS DECISION SUPPORTS THE FOREST SERVICE'S POLICIES AND POSITION ON THIS ISSUE. YOU CAN COMMET NOW ORALLY IF YOU LIKE, BUT I WOULD ASK FOR YOUR FORMAL RESPONSE FOR THE RECORD AFTER THE SERVICE HAS HAD AN OPPORTUNITY TO ANALYZE THIS DECISION.

AS PART OR YOUR FORMAL RESPONSE, I WOULD LIKE THE FOREST SERVICE'S OPINION ABOUT WHETHER I AM CORRECT IN CONCLUDING, BASED ON THIS JERSEY JACK CASE, THAT THE NATIONAL FOREST MANAGEMENT ACT OF 1976 DOES NOT REQUIRE THE COST OF NATIONAL FOREST TIMBER ROAD EXCEEDED BY THE VALUE OF THE TIMBER IS ACCESSES.

WOULD YOU FURTHER AGREE THAT THOSE WHO WANT TO STOP SALES BELOW COSTS, THAT THEIR REAL PROBLEM IS THAT THE ACT DOES NOT SUPPORT THEIR POSITION?

ANSWER: Yes, the Thomas decision supports the Forest Service's position on this issue. You are correct in concluding that the National Forest Management Act (NFMA) does not require that the cost of a National Forest timber road be exceeded by the value of the timber it accesses.

Neither NFMA nor the Multiple Use-Sustained Yield Act support the position that timber sale value must exceed the cost of the timber road access.

M3. QUESTION: WE HAVE SEEN A NUMBER OF STUDIES, INCLUDING THOSE PERFORMED BY THE CONGRESSIONAL RESEARCH SERVICE AND THE GENERAL ACCOUNTING OFFICE, USE CASH FLOW ANALYSIS TO INDICATE THAT LARGE NUMBERS OF TIMBER SALES LOSE MORE MONEY THAN THEY BRING IN. DO STUDIES SUCH AS THESE PROVIDE AN ACCURATE FINANCIAL PICTURE OF THE TIMBER SALES PROGRAM?

ANSWER: No. These studies have not included the non-timber benefits that flow from the vegetation management aspects of the timber program, nor have they accurately measured the value of the physical assets, such as roads, that are funded through timber activities. In addition, they have included several significant cost items, such as the 25% fund payments to counties, that are not true costs of timber management.

M4. QUESTION: WHAT CONTRIBUTION WOULD BETTER COST ALLOCATION TECHNIQUES AND A MORE ACCURATE COST ACCOUNTING SYSTEM MAKE TO PROVIDING A CLEARER FINANCIAL PICTURE OF THE TIMBER SALES PROGRAM?

ANSWER: Our view has been that the data presented in land management planning, the RPA Program, the budget, and the existing accounting system (Program Accounting and Management Attainment System) provide an adequate financial picture of the timber program in view of the statutory mandates under which the

Forest Service operates. The task force on timber sale program accounting established last year is exploring possible modifications of, or additions to, this information system to determine the feasibility of improvements.

M5. QUESTION: AT WHAT LEVEL (I.E., INDIVIDUAL TRANSACTIONS, GROUPS OF SALES, THE NATIONAL FOREST) WOULD YOU PROPOSE TO COLLECT DATA AND TRACK A BETTER COST ACCOUNTING SYSTEM?

ANSWER: Because of the high degree of interdependence among different timber sales in the same year and among sales in the same area in different years, the data collection unit should be a large geographic area encompassing multiple sales. The task force will make recommendations on the preferable size of this unit.

M6. QUESTION: IS IT FAIR TO SAY THAT MORE ACCURATE COST ALLOCATION, BETTER COST ACCOUNTING, AND FOREST SERVICE COST CONTROL ARE NECESSARY FIRST STEPS BEFORE THE AGENCY CONSIDERS REDUCING SALES LEVELS OR ADDING THE AGENCY'S COSTS OF SALES PREPARATION AND ADMINISTRATION TO THE MINIMUM ACCEPTABLE BID FROM A PURCHASER?

ANSWER: No. The issue of below cost sales is not primarily an accounting problem. Better data, which will come from the accounting system being developed, will help to put the issue into perspective. But the real question in areas with below cost sales is whether or not timber sales represent the most cost-efficient way to achieve established forest management objectives. Data currently available to the Forest Service is generally adequate to answer this question. The Forest Service is considering changes to our policy which would require that the minimum price for regular timber sales would be set so as to cover direct costs of sale preparation and administration, exceptions to this policy would be made for salvage sales, sales made to control insects or disease, sales designed to achieve an identified multiple-use objective, and where sales at lower rates are necessary to protect the economies of local dependent communities. If this policy is changed following public comment, the resultant minimum rates would be based on data from the new accounting system.

M7. QUESTION: AT LAST YEAR'S HOUSE APPROPRIATIONS COMMITTEE HEARINGS, CHIEF PETERSON TOLD CONGRESSMAN YATES THAT, WHERE BELOW COST SALES ARE AN ISSUE, THE NATIONAL FOREST PLANS WILL ADDRESS THE MATTER.

a. WHAT HAS BEEN DONE IN THIS REGARD TO DATE?

ANSWER: Based on work done during the past year, we are now in the process of analyzing what kind of national direction is needed to address below cost sales in Forest Planning and implementation.

b. CAN YOU REFER US TO SOME PLANS THAT DEMONSTRATE THE QUANTITY AND VALUE OF NON-TIMBER RESOURCES THAT ARE ACHIEVED THROUGH THE TIMBER SALES PROGRAM?

ANSWER: The link between a timber sale program and non-timber benefits identified in the Forest planning process is not concisely displayed in Forest plans. The linkage is clear in the resource management prescriptions developed for portions of the Forest early in the planning process. These prescriptions list the timber management activities over time for an area and the associated outputs and effects on other resources. Normally the effects of timber activities on other resources, for a piece of land, can be determined when compared to prescriptions which do not include timber activities. This comparison is not required in the Forest plan since decisions on long term management of the Forest are based on total net public benefits from multiple objective prescriptions. Forest plans do contain a list of prescriptions selected for implementation. The planning records for each Forest contain the data on prescriptions analyzed so that the comparisons can be made. However, some Forests plans such as the Arapaho-Roosevelt (FEIS III-6) contain an example of the benefits realized from meeting plan objectives with timber activities as compared to meeting those objectives without timber activities.

c. WOULD A DELAY IN THE PLANNING PROCESS BE USEFUL TO PROVIDE GUIDANCE TO THE FOREST PLANS TO INCLUDE SUCH ANALYSIS?

ANSWER: There is no need to delay the planning process. The national direction being developed focuses on plan implementation and can be readily applied with minimal impact on the Forest planning schedule.

d. SINCE THE REGION 2 (ROCKY MOUNTAIN REGION) PLANS ARE ALL IN FINAL FORM, ARE YOU CONSIDERING A SUPPLEMENTAL ANALYSIS FOR EACH PLAN WHICH WOULD ADDRESS THIS ISSUE?

ANSWER: Each approved Forest plan contains a process for monitoring and evaluating implementation to determine how well objectives have been met. The need for change or amendment of the plan is determined by this process, and we expect that this issue will be addressed in the monitoring and evaluation process and adjustments made as appropriate.

M8. QUESTION: IF, AS SOME WOULD HAVE US DO, WE ARE TO EVALUATE THE TIMBER SALES PROGRAM ON A CASE FLOW BASIS ONLY, WOULD IT MAKE SENSE TO CALCULATE THE INCOME TAX REVENUES GENERATED FROM THE SALES, AND ADD IT TO THE "CASH-IN" SIDE OF THE EQUATION?

ANSWER: Income tax revenues are like the 25% fund payments to counties--they are transfer payments, and as such they are neither costs nor revenues of timber managment. Proper analysis would exclude all transfer payments.

Further responses to questions provided before the hearing on February 26, 1985.

Continuation of Answer - Page 1

I-3 The annual cost of National Forest road construction including Forest Road, (FRP) Purchaser Credit (PC), and Purchaser Elect (PE) programs was:

Year	$ in 1,000's
1976	$ 331,753.2
1977	339,395.0
1978	353,700.0
1979	438,009.0
1980	428,813.0
1981	447,109.0
1982	461,758.9
1983	400,376.5
1984	372,067.3
TOTAL	$ 3,572,981.9

These figures include the cost of planning, surveying, designing, constructing, contract administration, and support services.

I-7 In the past 9 years (FY 1976-1984) the total value of timber exchanged for road construction was $1,747,610,200. The values for 1975 and earlier are not available because of a different accounting procedure prior to 1976. (Comparable figures for earlier years can only be developed by pulling records from the archives, which will require another 30-40 days.)

STATEMENT OF
DOUGLAS W. MACCLEERY
DEPUTY ASSISTANT SECRETARY, U.S. DEPARTMENT OF AGRICULTURE

Before the

Subcommittee on Forests, Family Farms and Energy
Committee on Agriculture
United States House of Representatives

Economics of Federal Timber Sales

FEBRUARY 26, 1985

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I appreciate the opportunity to present the Administration's views as the Subcommittee considers issues relating to the economics of Federal timber sales. I am accompanied today by the Chief of the Forest Service, R. Max Peterson. My comments will be from a broad perspective on this issue as the the Department views it today, while Chief Peterson will deal with more specific details, examples, and status of actions currently being taken relating to this issue. We are pleased to have this opportunity to provide you with our views and answer any questions you may have.

First let me assure you that the economics of Federal timber sales, or for that matter economics of any current or proposed program, is of major and continuing interest to the Department. It is our overall policy and intent that the Federal Government should receive fair market value for resources that are provided from the National Forest System lands. In the past four years the Department has focused a considerable attention on improving the quality of economic analysis of Forest Service programs, particularly resource management programs on the National Forest System. We have been particularly interested in assuring that the National Forest land management planning, which is now going on and which Chief Peterson will discuss later, fully evaluates both the environmental and the economic implications of the resource management options that are available and that the planning documents clearly display the economic and environmental tradeoffs associated with each planning alternative. A paper issued by the Assistant Secretary's Office, dated October 10, 1983, clearly lays out what the Department feels is the appropriate role of economic analysis in National Forest land management planning and decisionmaking. I would like to submit this paper for the record.

The Forest Service is directed by statute to manage the National Forests in the long-term to provide a wide range of multiple-use resources, most of which are interrelated in various ways. For example, development of a road into an area may provide access for timber management, while at the same time increasing recreational opportunities such as hunting and fishing, improving forest protection from fire, insect, and disease, and allowing for more intensive wildlife and water resource management. Professional forest managers who understand and manage these relationships are many times able to achieve a number of management objectives through one on-the-ground activity.

The complexity of this type of integrated forest management has increased significantly over the past decade as foresters have continued to develop ways to improve the quality and increase the quantity of resources that can be produced from a somewhat declining forest land base. As the complexity of forest management has grown, accounting for the costs and benefits has likewise become more complex. A major part of this current issue centers on properly accounting for all the costs and benefits of the timber program. Adding to the complexity of the resource evaluation process is that some resources, like timber, are able to be priced and assigned a dollar value, while others, such as scenic resources, cannot readily be assigned a value in dollar terms, but are nonetheless important.

In management of public lands, there are many questions that must be answered, most of which deal with what economists refer to as input-output relationships, i.e., costs-benefits. We believe long-term benefits should exceed total timber related costs unless an unusual circumstance exists. An important distinction, however, is the difference between "costs and benefits" and "costs and revenues". The various policy, social, political, and other related considerations require that total benefits, both priced benefits and non-priced benefits, be considered in National Forest management.

The current land management planning is designed and intended to answer management questions using the best possible information on benefits and costs of various alternative approaches. This process is designed to assure that multiple use direction is followed and net benefits, that is benefits minus costs, are maximized in a long-term overall perspective, not just an individual short-term activity such as one timber sale. We are continuing to develop and enhance our ability to analyze these complex multi-resource questions. The planning process is intended to result in selection of a management alternative that contains a level and mix (both priced and non-priced) that is optimal, to the national social welfare.

The Department intends that the Forest Service address the below-cost sales issue in a number of ways. First, consideration needs to be given to clarifying current Forest Service policy as it relates timber management. Such policy would make clear the intent that the National Forest timber sale program be conducted in an economically efficient manner. Exceptions might be permitted where an overriding objective such as protection of the forest from substantial insect epidemic or fire, or attainment of other important non-timber objective, including maintenance of the stability of dependent communities, would be most efficiently achieved by selling timber below cost. Additional elements of the policy under consideration are to establish a minimum bid price for regular timber sales that would cover the average cost of sale preparation and administration, and to adjust timber sale volumes that would be offered in a way that would be more responsive to market demand.

A second element in our approach is to evaluate various options for a cost accounting system which better identifies costs and benefits attributed to the timber program. This is a complex issue due to the fact that the activities associated with timber management produce non-timber multiple benefits and also incur costs beyond those that would be necessary to produce timber alone. Even the least cost timber management practices produce non-timber benefits and in some cases it is efficient to enhance production of non-timber benefits by deciding to incur additional timber management costs. It is important to know the values of these non-timber benefits to come to correct conclusions on timber management and to guide decisions on incurring additional discretionary costs through the timber program to produce additional non-timber benefits. Chief Peterson will describe the progress of our effort to evaluate cost-benefit accounting systems later.

The third element of our approach to improving the economics of timber production is to continue efforts to evaluate and reduce the costs of the

National Forest timber program, as well as to increase timber revenues. The amount of timber that is sold below cost can be reduced, once we can define more accurately the applicable timber costs, by reducing the cost side of the equation and enhancing the revenue side. The agency has made considerable effort over the past couple years to reduce the costs and increase revenues of the Forest Service timber program. Last year the Forest Service sent a team to the Black Hills National Forest to evaluate what might be done to reduce timber related costs and increase revenues. This team found that there are considerable opportunities to do both. Further, it is the judgment of the team that similar opportunities exist on other National Forests. The Forest Service will be exploring these opportunities in the months ahead. We have already been implementing a number of initiatives to reduce costs and enhance revenues. I will not go into detail at this time, but the following are a few examples of the kinds of actions that have already been taken:

1. Reduction of road costs. Since 1980, road construction costs have decreased. This reflects not only a decrease in the amount of road constructed, but also a reduction in the per unit cost of construction principally by being sure that the standard of road is that which is necessary to meet management objectives--being sure that roads are not overbuilt.
2. Overall reduction in timber sale program costs.
3. Implementation of a number of improvements recommended from internal review of the timber program designed to evaluate agency effectiveness and efficiency, including sales preparation, sell, and administration of timber contracts, as well as recommendations for other activities such as reforestation and fuels treatment.
4. Requiring higher initial payments and mid-point contract payments for timber purchasers.
5. Providing for shorter term timber sale contracts.
6. Increasing firewood sales and establishment of a $10.00 minimum permit cost.
7. More economic analysis in project planning and monitoring of projects.

The Department is committed to continuing to manage the National Forest System lands in the most cost effective way possible to provide the wide range of multiple-use resources and benefits to the American public. I again appreciate the opportunity to provide you our views and will remain with Chief Peterson to answer questions you may have later.

STATEMENT OF
R. MAX PETERSON, CHIEF
FOREST SERVICE

Before the

Subcommittee on Forests, Family Farms and Energy
Committee on Agriculture
United States House of Representatives

Economics of Federal Timber Sales

FEBRUARY 26, 1985

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

We appreciate the opportunity to provide you with information on the economics of Federal timber sales. There has been much said and written during this past year on the issue, and we thank the Committee for allowing us this opportunity to provide you with our views and answer questions you may have.

In the course of my testimony, I would like to: 1/ emphasize the broad purposes for which the National Forest System are managed, 2/ present examples of actual situations that help illustrate the complexity of the issue and the need to look at all resources in both the short and long term, and 3/ update you on actions that we have taken or have underway, that respond to the questions and concerns that have been raised on the economics of National Forest System timber sales.

Eighty years ago the Forest Service was created. At that time, the Forest Service was given a charter to manage the National Forest System lands in the public interest on a sustained basis. This mandate was interpreted as "the greatest good of the greatest number in the long run." Our management philosophy and organization have grown around that mandate from Congress.

Even though the overall mission of the agency has not changed significantly over these 80 years, changes have occurred in how the mission is met. Protection and management of the National Forest System for the optimum combination of goods and services over time remains the major mission. The complexity of achieving this mission has increased, the demands for natural resources are greater, and the interest and involvement of the public continues to grow. More people than ever have an increasing interest in the management of public lands. It is important to remember that the National Forests were established to protect and provide a valuable supply of natural resources on a sustained basis in the long term.

Congress has established a direction that clearly demonstrates the importance of these lands to our Nation's welfare. Whether one looks at the Organic Act of 1897, the Knutson-Vandenberg Act of 1930, the Multiple-Use Sustained-Yield Act of 1960, the Forest and Rangeland Renewable Resources Planning Act of 1974, the National Forest Management Act of 1976, or other laws, one common theme is the vision or long-term management perspective. Even though balanced use of resources in the short-term is of high importance, long-term sustained management of the land has been a condition that remains paramount.

Renewable resources such as recreation, range, timber, watershed, and wildlife and fish, as well as non-renewable resources such as energy and minerals, must be managed, protected, and used in a manner that assures adequate resources available for future generations. To do this, investments must be made now in order to meet future needs. Erosion control measures and improvements for fish and wildlife habitat may not always show positive short-term benefit cost ratios. Investments are being made now to plant trees that will not be harvested for 80 to 100 years. Likewise, capital investments for campgrounds, trails, roads, and bridges are made today even though many of the benefits that justify their construction will not be realized for years into the future. In almost all cases, roads for a particular timber sale have value above and beyond their utility for the removal of trees in the present stand. They provide access for fire protection, public access for recreation, and a transportation network necessary for the future management and utilization of National Forest resources. They are planned, located, designed, and constructed to fit multiple purpose long-term needs and not just one initial sale or other project.

The current questions regarding the economics of Federal timber sales have been raised in many cases because the long-term perspective has been largely ignored or set aside in favor of judging economic viability by comparing this years costs to this years direct receipts. For example, investments and actions related to a timber sale that do not provide a short-term profit based simply on a one-year comparison of total expenditures compared to receipts have been judged by some to be below-cost.

It should be noted that Forest Service timber sales can be one vehicle for achieving broad resource management goals. They are used, for example, to improve wildlife habitat, maintain long-term favorable water flows, reduce insect and disease problems, enhance future timber productivity by capturing timber mortality through salvage sales, and to replace stagnant stands with vigorous young-growth. In carrying out a timber sale program to meet these multiple objectives, it is likely that specific sales may cost more to make than they initially return even when timber related costs are properly accounted for. Our intent is that, when such a case exists, the non-timber multiple use, as well as future timber, objectives that would be achieved are carefully laid out and explained. There is no doubt that for the overall timber sale program the value of the timber sold does exceed the costs. For example, in fiscal year 1984 the cost of the timber sales program on the National Forests, excluding the long-term investment of road construction, was $303.8 million and the value of the timber sold was $701.4 million. This is true even though the timber sale program includes substantial costs incurred to protect and enhance other values. Road costs, associated with this timber program, totaled $273.1 million in 1984. From 1978 to 1983 the cost of the timber sale program, including roads, amounted to a total of $2.9 billion. The value of the timber harvested was $4.3 billion and the value of the timber sales for future harvest was $8.4 billion.

The timber from these management activities creates employment and helps stabilize or develop local and regional economies. And without an adequate supply of National Forest timber, lumber and wood product prices would rise significantly, costing consumers substantially more for housing, as well as other wood related products. This would lead to major increases in consumer expenditures, increase lumber imports, and have some impact on the balance of trade. It is difficult to attribute such benefits to specific individual timber sales, but they do exist and should be recognized in any analysis relating to the pros and cons of selling National Forest timber.

For just a moment, I would like to draw your attention to a couple of individual cases that will help to demonstrate how the long-term, broader perspective frequently offers a significantly different picture than the short-term, single purpose view of one particular activity.

(Example #1)

In this case it is clear that if this area were managed only to return a short-term profit, the timber resource would not be utilized because short-term costs outweigh the short-term benefits; however, since it is possible to look ahead at the costs and benefits in the five decades ahead, we see that once the initial investments are made, the timber resource shows long-term profitability. This example shows how individual timber sales are dependent on each other. It is possible for an individual sale to return less than it costs and still to have achieved greater economy over the entire program.

Let me provide another example that illustrates how various social values, such as scenic, wildlife, and watershed resources, influence management of National Forest System lands.

(Example #2)

In this case, because of the values placed on the non-commodity resources and the condition of the forest, the investment in both the short-term and long-term results in negative cash flows. Even so, because of the social values associated with the scenic resource and wildlife, and forest protection problems in the watershed, it is highly desirable that this activity be undertaken. Placing dollar values on these social benefits is a challenge to our economists and managers. Likewise, getting public agreement and acceptance of the benefit values in resource economics is a challenge; however, the state of the art continues to improve in this area of analysis. Similarly, our overall ability to plan resource protection and management has developed significantly in the past decade.

Utilizing the Forest Planning process, we have a method of analyzing the economics of management activities. Forest plans, some of which have already been completed, provide the analysis and evaluation necessary to determine how the resources on a Forest will be managed, what it will cost, and what the environmental consequences will be, including the socio-economic impact and benefits to local communities.

The land management planning process, which was developed with the assistance of a committee of scientists from outside the Forest Service, not only helps managers determine the best and most cost-effective use of resources, but also allows us to schedule their use so that adequate supplies will continue in the future. The process also identifies which long-term investments should be made and when. Since completion of Forest plans is in itself probably the single most important analysis and information base for determining which activities will occur and how those activities will be scheduled on National Forest System lands, we will be briefing members of the Congress as Forest plans are finished.

The planning effort throughout the country has resulted in a blending of professional interdisciplinary expertise and public participation, which deals directly at the ground level with the complex issues of management today and the future, including the economics of those actions.

With this as background, I would like now to review some additional actions that we have taken which respond to the need to provide better information and respond to concerns about the economics of timber sales on National Forest System lands.

First, as Mr. MacCleery explained, we are considering a policy that would help improve the cash-flow position of individual National Forest timber sale programs. The policy would make it clear that it is our intent that the total benefits from a timber program on a National Forest should exceed total related costs. The policy analyzed would also provide assurance that the minimum selling price for National Forest timber would be established at a level sufficient to insure that we recover the direct costs of sale preparation and administration. For example, if the direct cost for sale preparation and administration are $20 per thousand board feet, we would establish the minimum price at $20 per thousand board feet. There are some exceptions proposed which would allow some sales at lesser rates when the sale represents the most cost-efficient method of protecting the forest from insect, disease, or fire; attaining identified multiple-use purposes such as wildlife habitat; or retaining reasonable community stability. For the most part the policy would assure that basic direct costs are recovered. Another provision of the policy we are considering would limit increases in the timber sale programs in areas where there has been an unfavorable cost-revenue relationship in the previous five years, reflecting a stagnant market or possibly a supply-demand imbalance. I will be happy to provide more detailed information if you have questions later.

Second, in response to Congressional direction, we are currently reviewing accounting procedures to determine if we can more accurately estimate the costs and benefits associated with the timber sale program on a National Forest. A special group has been organized to accomplish this task. Our initial report, identifying four principal tasks, was submitted to the congressional appropriations committees in December. We are presently in the investigation stage, with design, testing and recommendation steps to come in that order. It is already obvious that it is relatively easy to determine costs. However, to quantify the wide array of benefits and impacts of different uses and therefore relate overall costs to benefits is quite complex.

Assisting us in some parts of this effort are personnel from the private foundation of Resources for the Future and Oregon State University. Resources for the Future is working on development of a methodology for identifying and evaluating multiple-use benefits associated with timber management and will develop case studies in application of multiple-use accounting procedures. Oregon State University is making a survey of the private forest industry and is evaluating their accounting systems.

By summer, we hope to begin testing and evaluating alternative methods of relating costs and benefits. Next year, we expect to be ready to implement any changes in our present system that are determined to be appropriate from the study. As a part of the investigation stage, we have already found that there does not appear to be any system now in use in any public or private organization that accounts for all the costs and benefits associated with a timber management program which is designed to meet multiple use objectives.

To keep others informed on the study, we have identified and have been in contact with other agencies, organizations, and individuals that have expressed interest in the economics of the Forest Service timber program. These contacts include the Wilderness Society, Natural Resources Defense Council, National Forest Products Association and the Society of American Foresters, as well as the General Accounting Office, Congressional Research Service, and the Office of Management and Budget. We plan to keep these groups informed and will continue to work with and provide current information to the affected Committees as the study progresses. One of the purposes of the timber accounting system study is to determine if there is a better way to track costs and benefits of timber sale programs for decision purposes. Along those lines, we have provided more information this year in the Annual Report of the Forest Service for 1984 which you have or which you will be receiving very shortly. In it, for example, we included a table which compares by Region the cost of the timber program to the value of 1) timber and other products sold, and 2) additional outputs associated with this volume. The table does not include other types of benefits such as employment and taxes, but it shows some important relationships. I have provided the Committee with copies of this table and will answer any questions you might have as to what it shows or does not show.

Third, we recently evaluated the relationship of cash flow to the timber sale program on the Black Hills National Forest. From the findings, we have identified several specific opportunities and recommendations that will be reviewed in other areas on a Forest by Forest basis. Through increased uses of economic analysis, opportunities to reduce costs were identified in both timber practices and silvicultural planning. The study resulted in recommendations for improvements in our budgeting practices and land management planning. It also identified the need to establish specific financial criteria for decisionmaking on a national basis. We are planning to initiate similar evaluations on some other Forests in the near future.

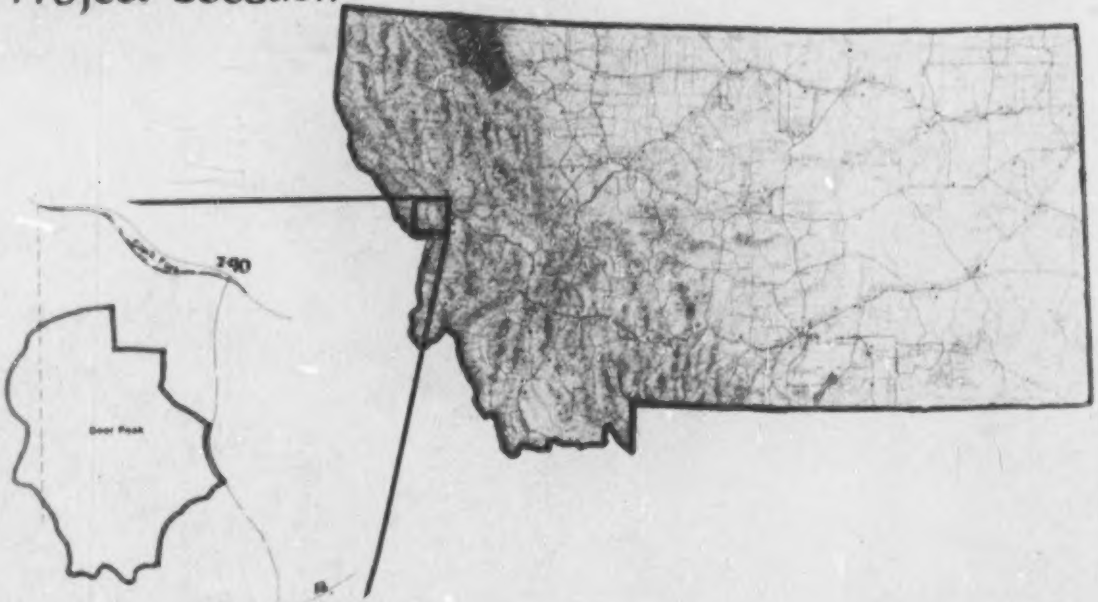
SUMMARY

By law, the National Forests are managed on a multiple-use, sustained-yield basis. Both the costs and benefits of activities carried out under this mandate are so interrelated that allocation of costs and returns to individual resource activities is, in the final analysis, a matter of judgment with which reasonable people may differ. Other approaches that do not rely on allocation of costs, such as identifying the total benefits achieved by the timber program are also being evaluated. Timber sales on a National Forest provide multiple benefits, such as wood for the local mill, increased forage for cattle and wildlife, access for dispersed recreation, fire protection and access to capture mortality or treat an insect or disease outbreak. In order to achieve these multiple benefits, higher costs are encountered for sale preparation and administration than would be involved if only wood production were the objective. Because the resulting benefits include those which can be assigned a dollar value, as well as benefits to which no dollar value can readily be given, comparison of costs and benefits is complex and inherently subjective. We continue to work on methods to improve our ability to track costs and benefits in all affected resource areas. We are also undertaking a number of other policy changes and improved management initiatives as a means of reducing the costs of the timber sale program. This Administration is committed to holding Forest Service managers accountable for meeting cost control and output production goals. Necessarily, this involves providing improved financial management information.

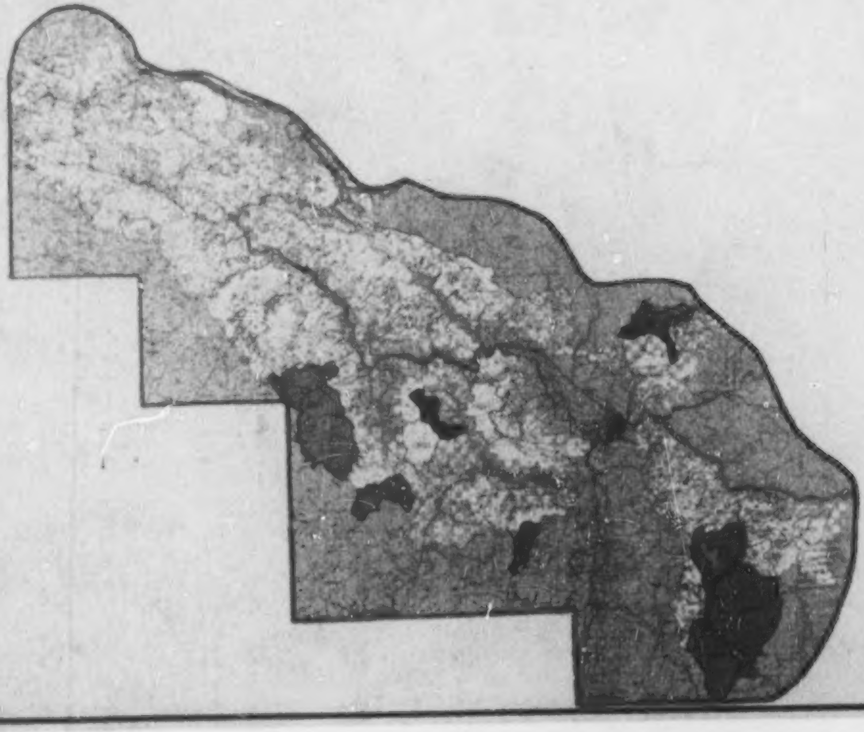
The best process we have for examining both the economic and social consequences of multiple-use forestry decisions is the "Forest Land and Resource Management Plan." The planning process which is currently underway, as required by the National Forest Management Act of 1976, allows for evaluation of interactions among resources based on various mixes of programs and land management alternatives. This provides direction, with benefit of extensive public participation, as to how National Forest System land should be managed in the short-term to assure that the long-term values are guaranteed.

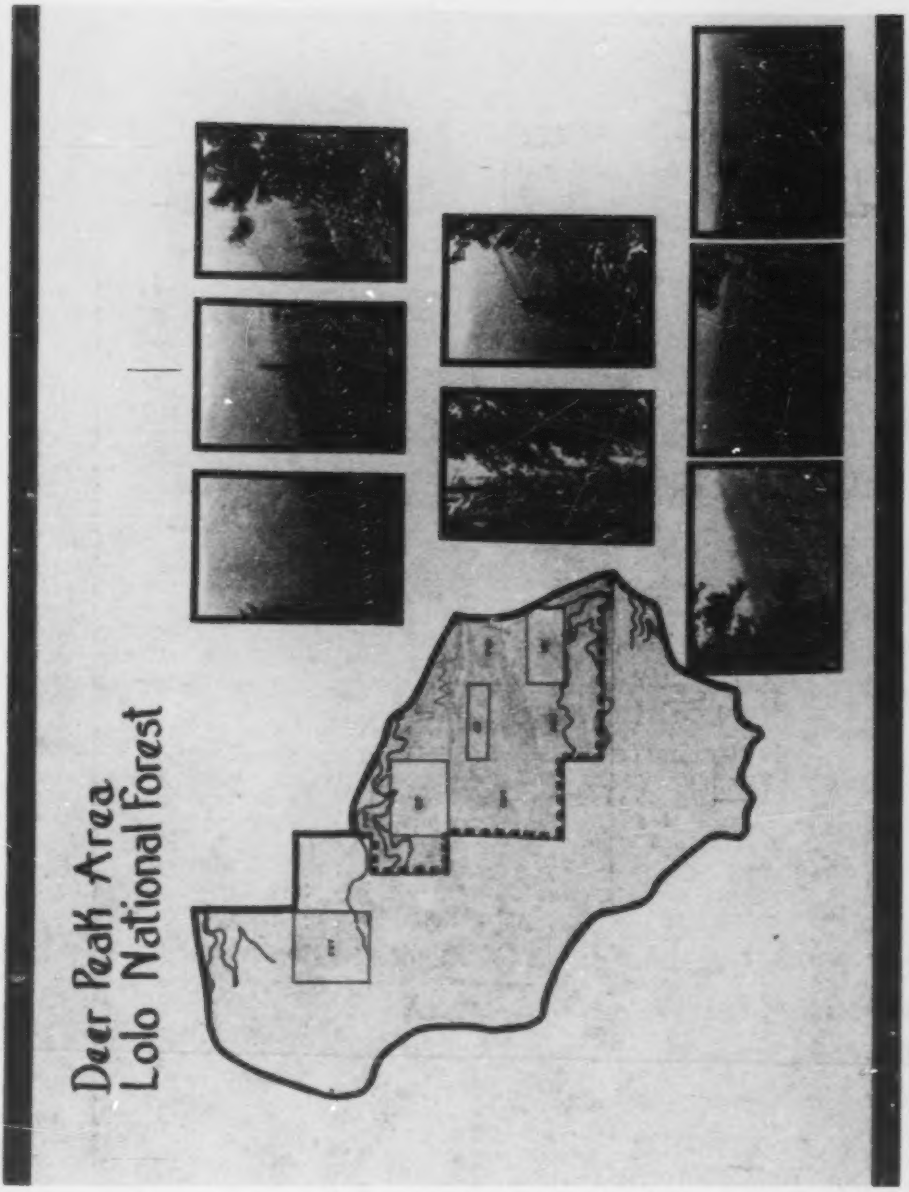
Mr. Chairman, this concludes my prepared testimony. I would be happy to respond to questions you might have.

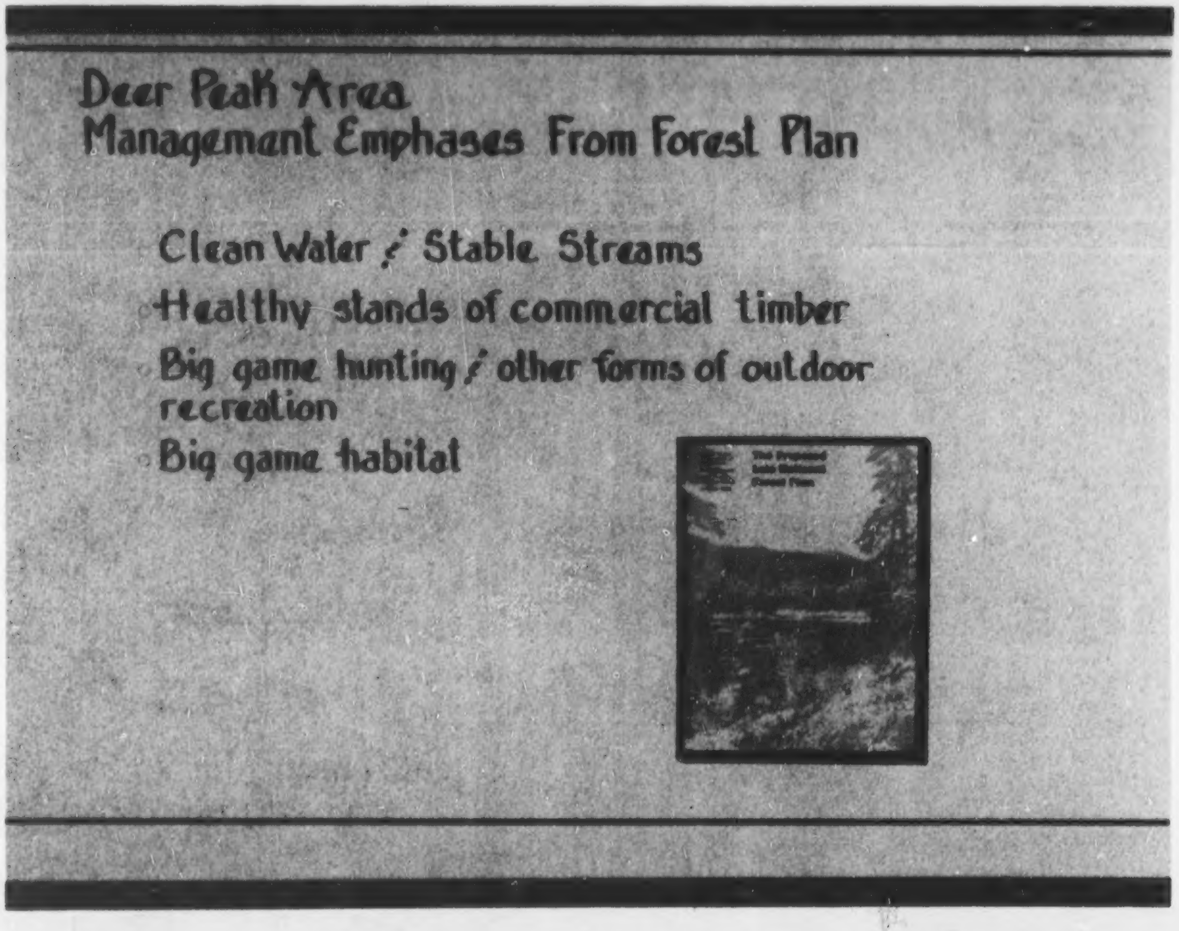
Deer Peak Area
Project Location


190
Deer Peak

Deer Peak Area
Project Location

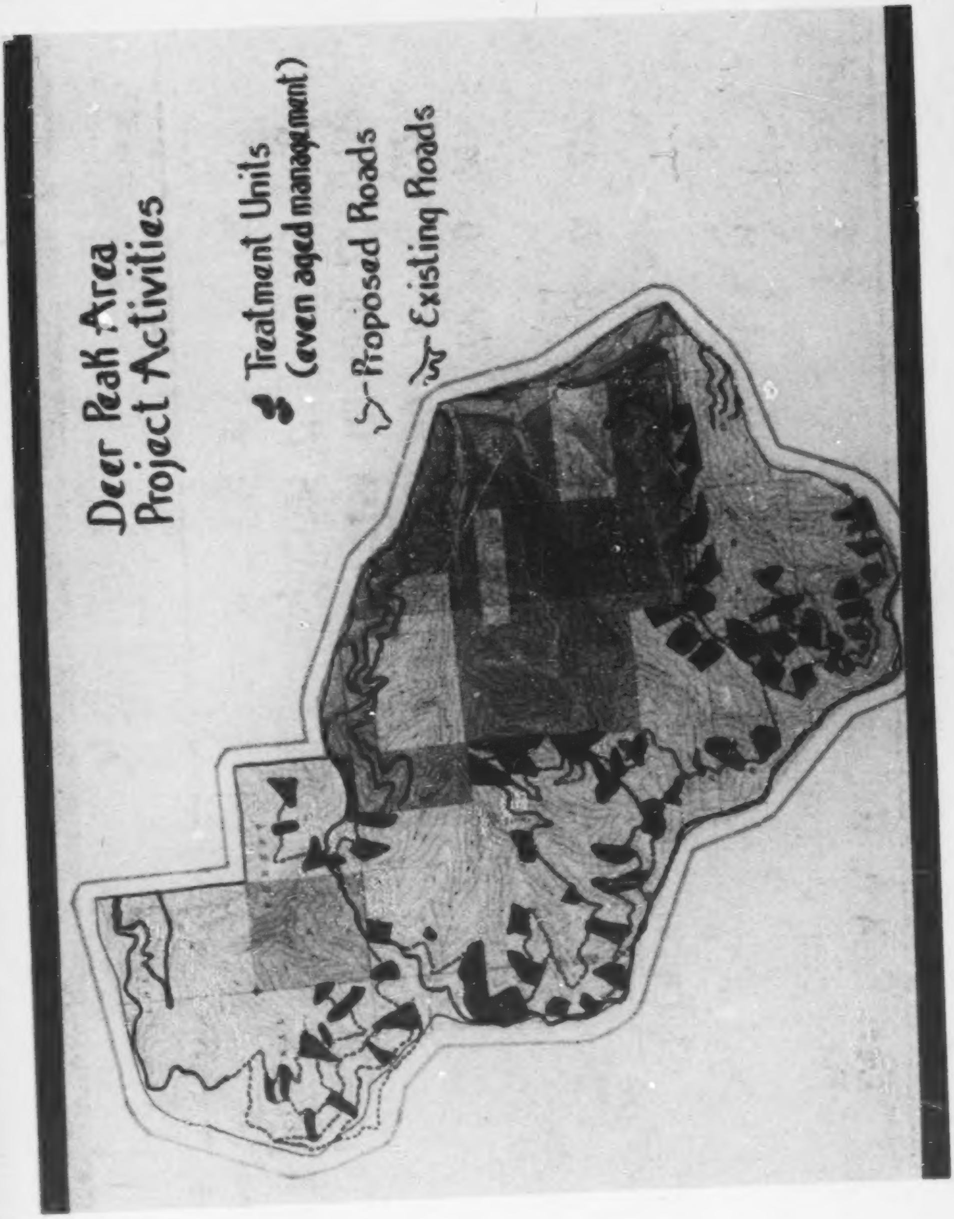



Deer Peak Area
Lolo National Forest



Deer Peak Area
Management Emphases From Forest Plan

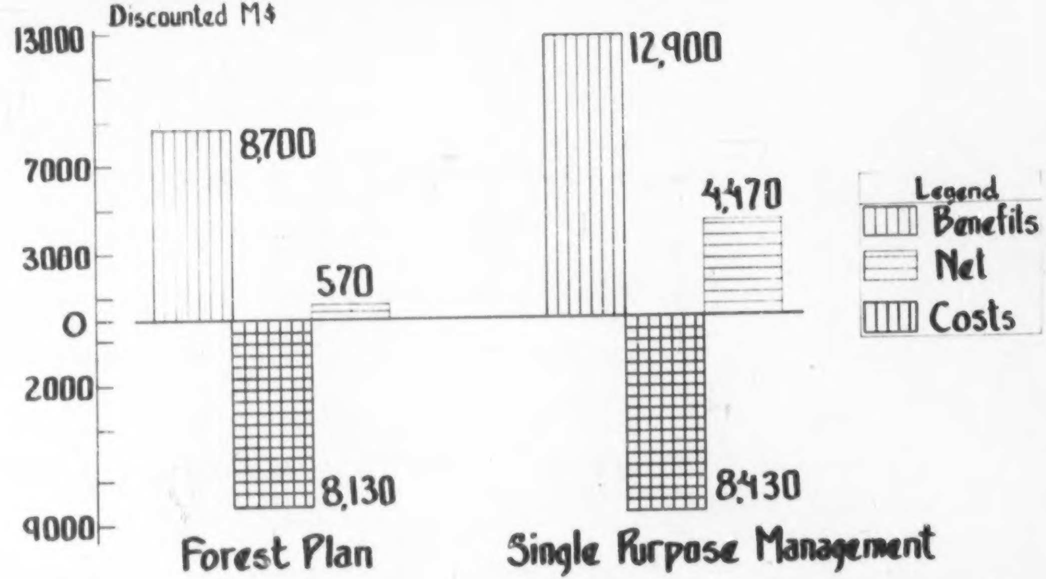
- Clean Water & Stable Streams
- Healthy stands of commercial timber
- Big game hunting & other forms of outdoor recreation
- Big game habitat


Deer Peak Area
Project Activities
Treatment Units
(even aged management)
Proposed Roads
Existing Roads

Deer Peak Area
Financial Summary

	Decades (M$)				
	1	2	3	4	5
• Timber value	1,275	230	2,670	1,406	3,796
Timber sale costs	258	11	292	21	317
Support costs	50	2	57	4	62
Other timber costs	591	0	736	0	797
Road costs	1,785	0	715	0	572
• Total costs	2,684	13	1,800	25	1,748
• Net	-1,409	217	870	1,381	2,048

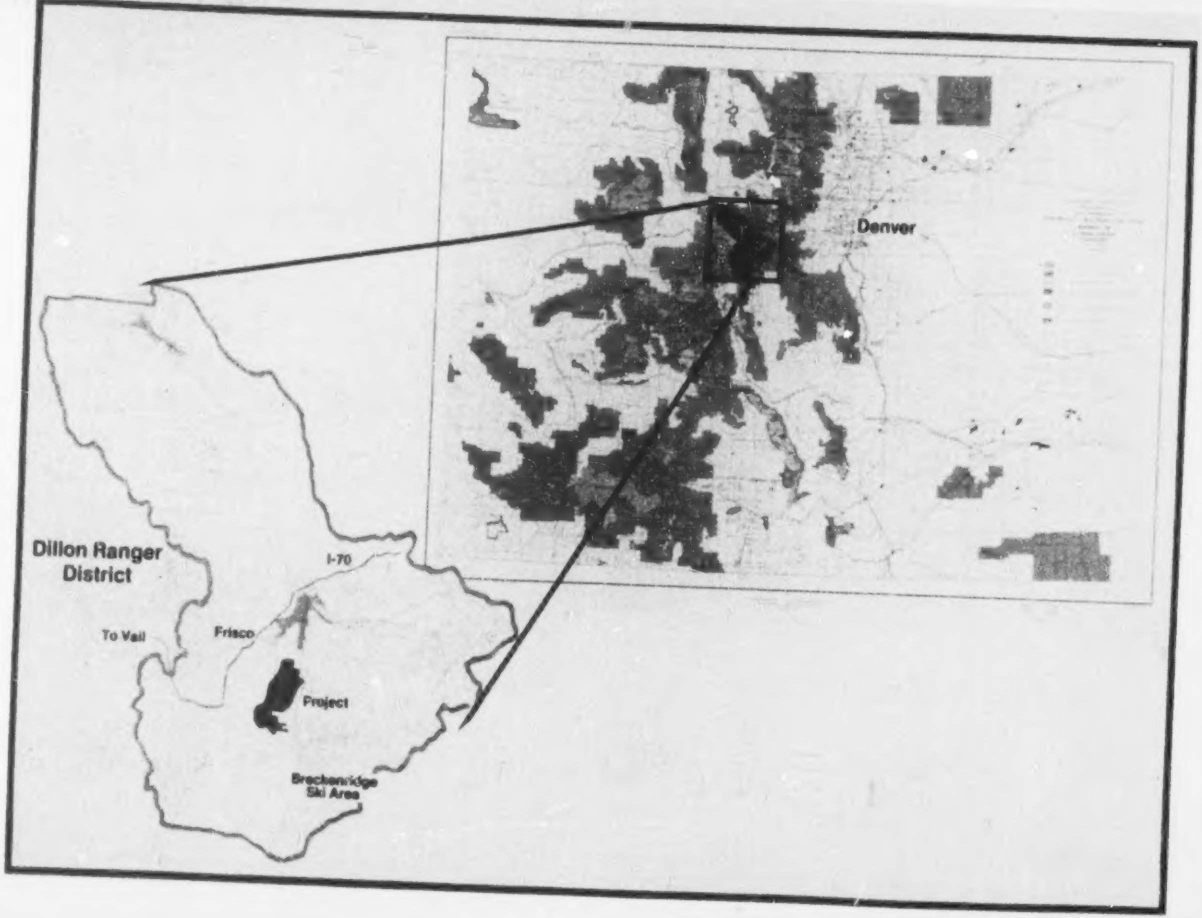
Deer Peak Area
Economic Summary



Deer Peak Area
Other Benefits of Management

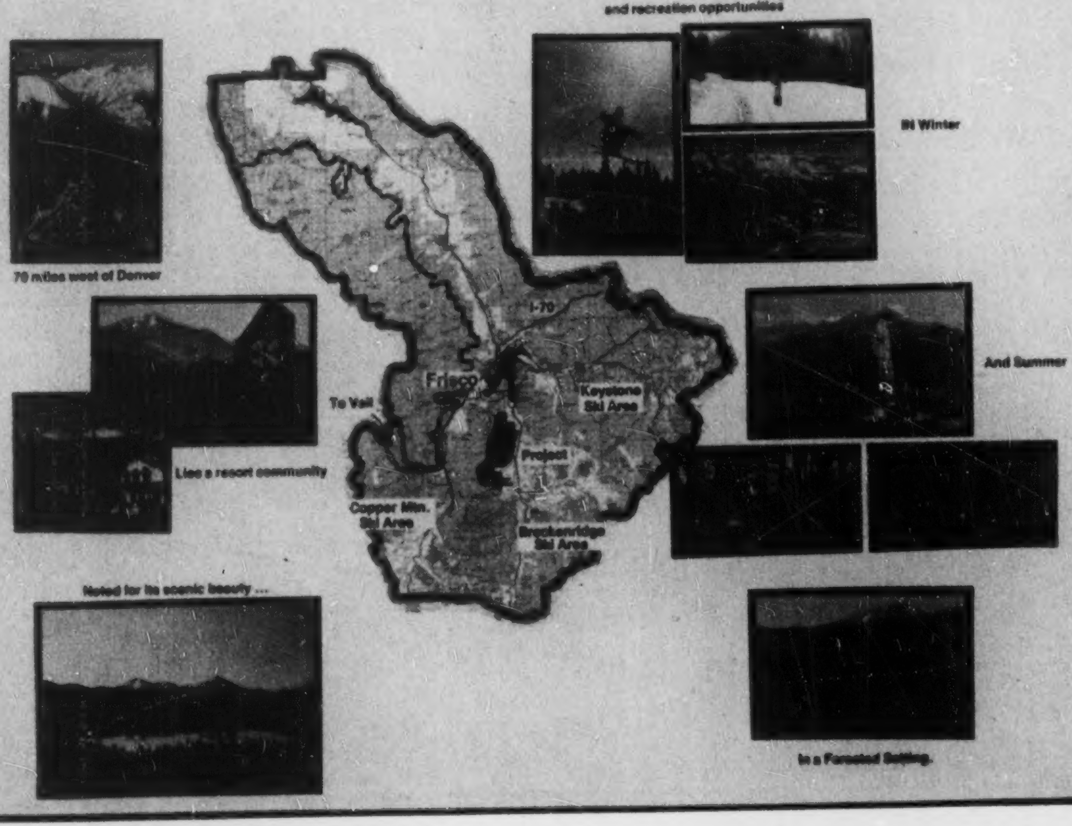
○ Maintains water quality and riparian environment
○ Maintains elk habitat at current levels
○ Maintains a quality hunting experience
○ Develops a more diverse, healthy forest
○ Reduces probability of large forest fires
○ Help maintain timber related employment

Project Location


Denver
Dillon Ranger District
I-70
To Vail
Frisco
Project
Breckenridge Ski Area

Dillon Ranger District

White River National Forest



I-70
Frisco
To Vail
Keystone Ski Area
Project
Copper Mtn. Ski Area
Breckenridge Ski Area

70 miles west of Denver

Lies a resort community

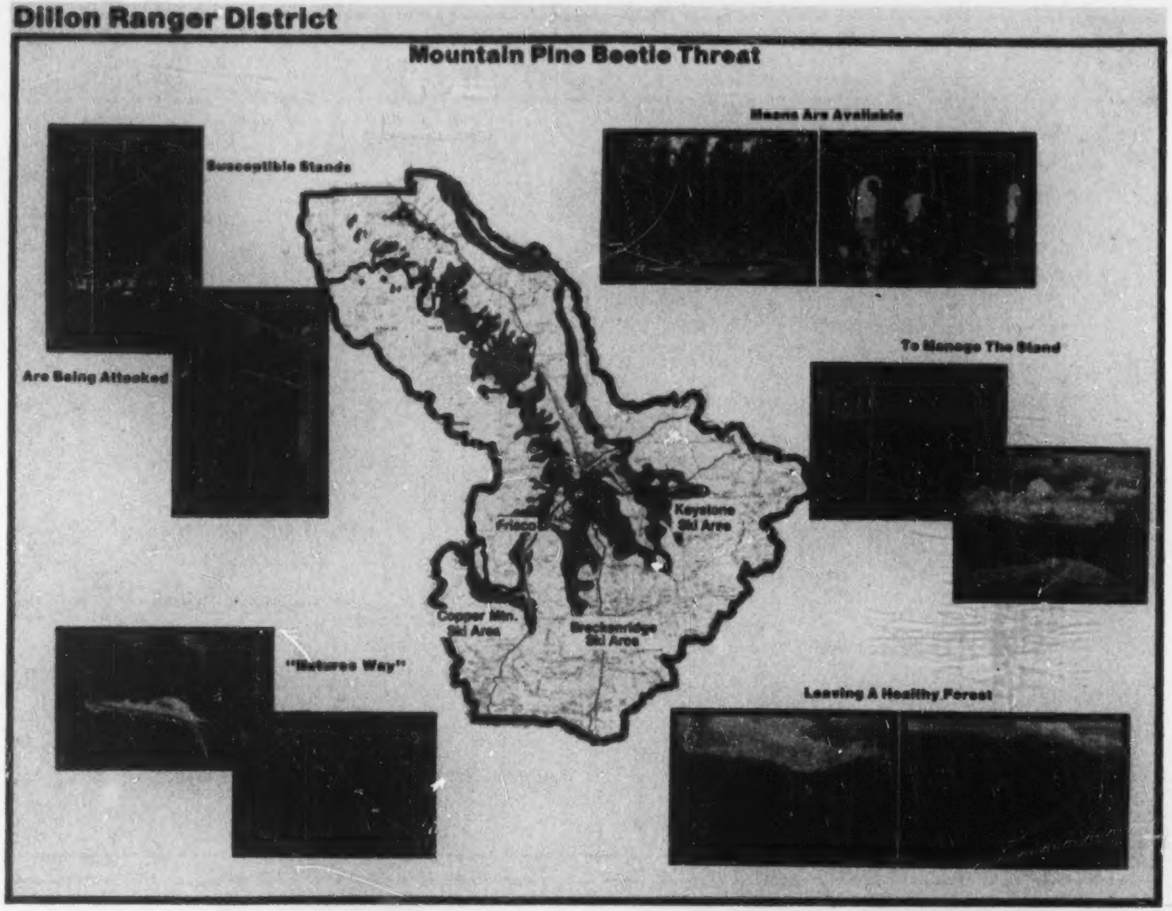
Noted for its scenic beauty ...

and recreation opportunities

In Winter

And Summer

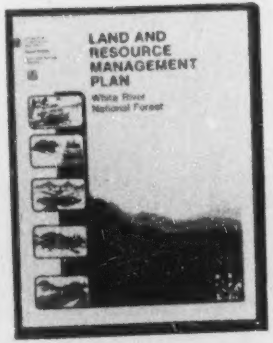
In a Forested Setting.


Dillon Ranger District
Mountain Pine Beetle Threat
Susceptible Stands
Are Being Attacked
"Natures Way"
Means Are Available
To Manage The Stand
Leaving A Healthy Forest
Frisco
Keystone Ski Area
Copper Mtn. Ski Area
Breckenridge Ski Area

Ophir Mountain Area

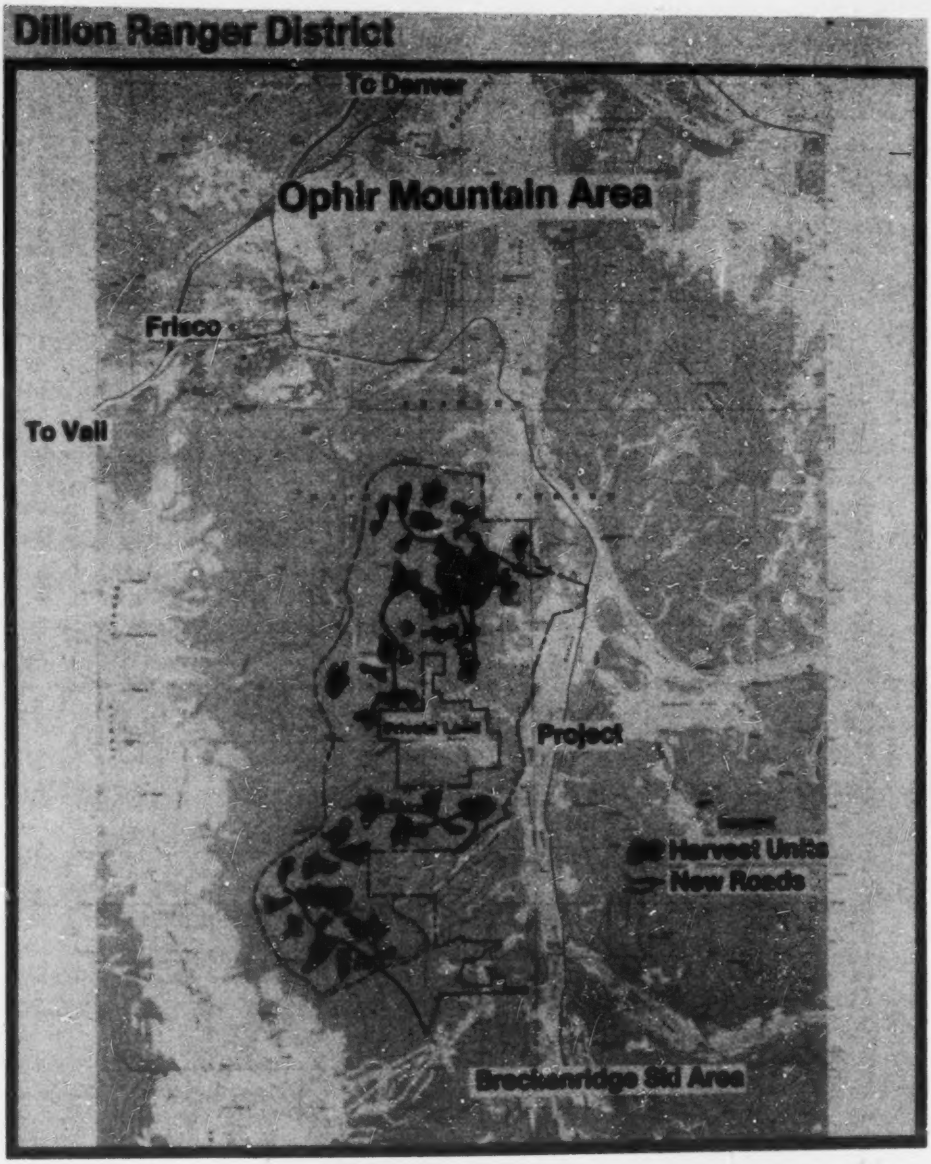
Management Emphasis From The Forest Plan

- Downhill Skiing
- Nordic Skiing
- Dispersed Recreation - fishing, camping, hiking
- Scenic Quality
- Water Production
- Achieve A Healthy Forest

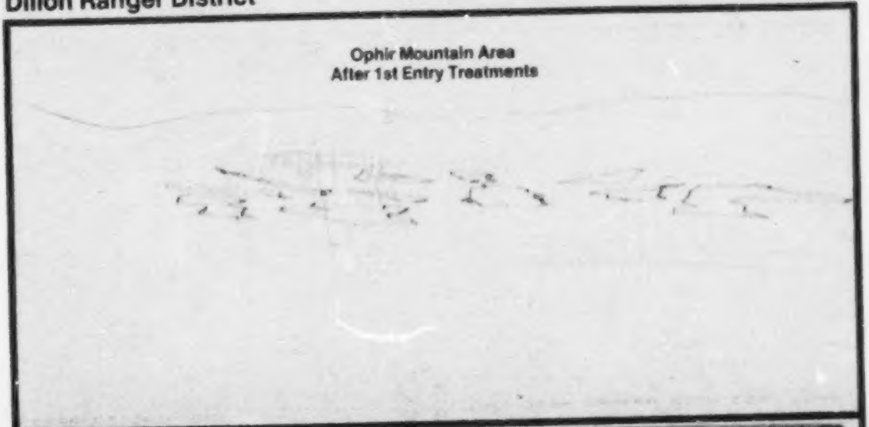


LAND AND
RESOURCE
MANAGEMENT
PLAN

White River
National Forest


Dillon Ranger District
To Denver
Ophir Mountain Area
Frisco
To Vail
Private Land
Project
Harvest Units
New Roads
Breckenridge Ski Area

Dillon Ranger District



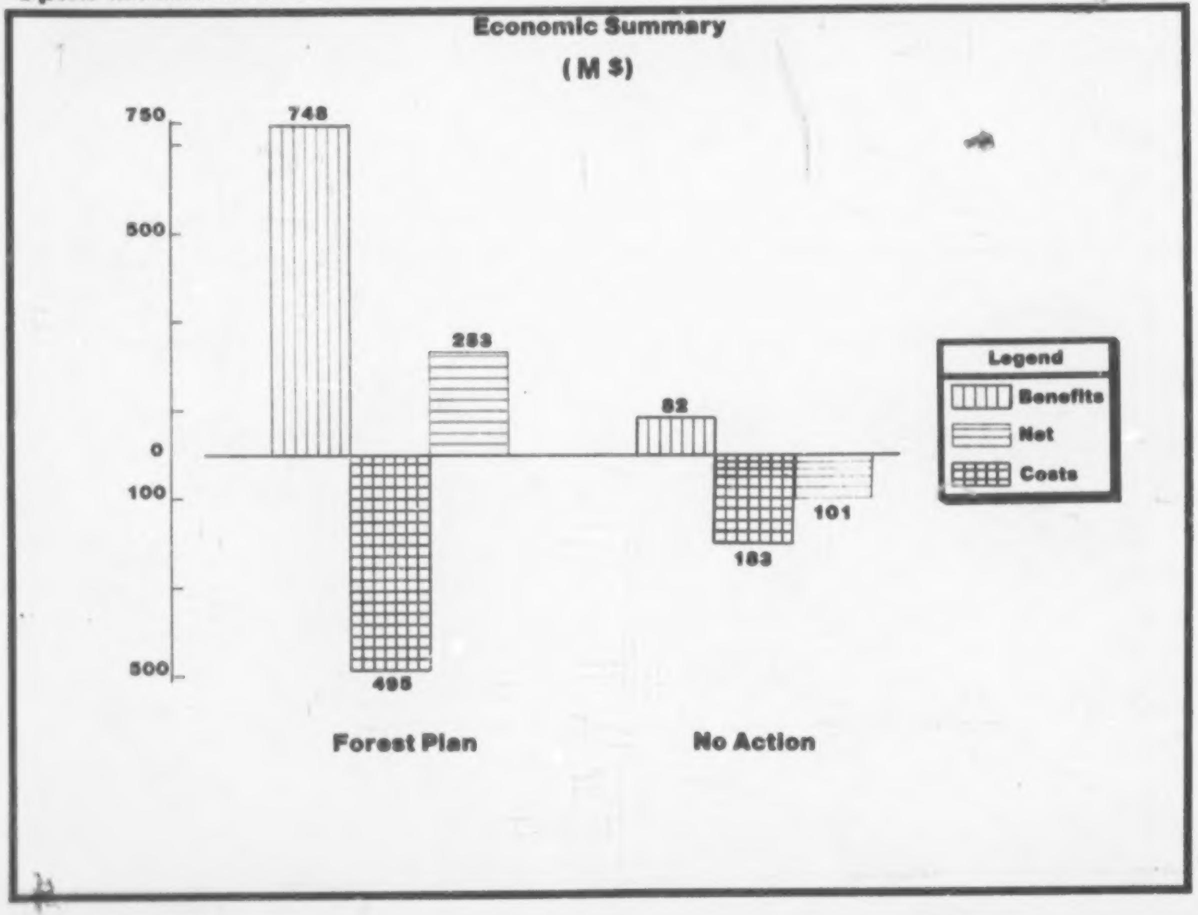
Ophir Mountain Area
After 1st Entry Treatments

Ophir Mountain Area

Financial Summary
(M $)

	Decade 1	2	3	4	5
Timber Value	207	6	212	212	11
Timber Costs	93	55	13	92	5
Support Costs	43	6	10	9	6
Other Timber Costs	25	0	43	103	0
Road Costs	207	22	56	75	6
Total Costs	368	83	122	279	17
Net	–161	–77	+90	–67	–6

Ophir Mountain Area



Ophir Mountain Area

Effects	
Forest Plan	No Action
• Increased Nordic Skiing	• No Increase in Nordic Skiing
• Increased Hiking & Camping	• No Increase in Hiking & Camping
• Enhanced Scenic Quality	• Loss of Scenic Quality
• Increased Water Production	• Increased Water Production
• Maintenance of Water Quality	• Potential loss of Water Quality
• Reduced Risk for Forest Fires	• Increased Risk for Catastrophic Forest Fire
• Improved Wildlife Habitat	• Improved Wildlife Habitat
• A Healthy Forest - Improved diversity of vegetation	• An Unhealthy Forest - Maintain Unformity of Vegetation

SUMMIT COUNTY
BOARD OF COUNTY COMMISSIONERS

September 21, 1

DILLON R.D.
SEP 20 1984

Bruce Gravette
P.O. Box 2183
Breckenridge, Colorado 80424

Dear Mr. Gravette:

Thank you for your recent letters regarding the Barton Hill timber sale. We appreciate your concern for the impacts of this sale but we do not feel that the Forest Service should alter its plans to proceed on this project.

The mountain pine beetle has been at an epidemic level in Summit County since 1979. A few years ago, we were told that it was unlikely the beetle would spread south of Farmers' Korner. We know now that this was not true and that, in fact, unless the forest conditions are changed, the beetle will continue to spread and cause devastation. The basic problem in most forested areas of the county is - as I'm sure you've heard before - an overmature, even-aged stand of lodgepole pine trees that is susceptible to a variety of diseases and insect attacks, including the mountain pine beetle. It has always been the understanding of the Commissioners that direct control efforts to suppress the beetle were only short-term solutions and that eventually we would have to embark on a program to develop a more healthy forest through regeneration. Unfortunately, Summit County is far behind its neighbors in Eagle and Grand Counties in this program, who regard forest management through timber sales as an accepted, and welcomed, activity with tremendous long-range benefits.

The objective of commercial timber sales is to reduce the beetle infestation but, more importantly, to help remaining trees become more resisrent to mountain pine beetle attack and to create openings in the forest where new trees and other vegetation will be encouraged. Effective forest management is the only long-term solution to the insect and disease problems in Summit County forests. The Barton Hill timber sale is one of many such sales being planned all across Summit County.

We have had an opportunity to observe five and ten-year old timber sales in Grand County and must affirm that the results are both natural and attractive - and that any short-term detraction from logging activity is worth the obvious benefits. Where openings were created, new, diverse and vigorous growth had occurred. The sooner Summit County begins its own management program, the sooner we, too, can reap the benefits and know that our forests will be green and healthy for future generations.

We believe that the Forest Service has been sensitive to the environmental impacts of these sales. The patch cut openings have been planned through computerized plotting in an effort to minimize adverse visual impacts. In reviewing access alternatives and planning new road construction, the most environmentally acceptable route is always preferred, even when costs are higher.

With regard to new road construction, we have been assured by the U.S. Forest Service that the six miles of roads to be constructed in conjunction with the North Barton and South Barton sale areas will be closed to motorized public use during and following the harvest activity. These new roads would most likely increase cross-country skiing and hiking opportunities but we view this as an enhancement rather than a detriment to the area. In addition, of the three access alternatives being reviewed for the South Barton sale area, the preferred route is through the Breckenridge Ski area. Should this this route be selected, there would be no related truck traffic on County Road #3 and the Coyne Valley Subdivision.

There has been a great deal of discussion, and some misconception, about the impact of logging trucks as these timber sales get underway. While we agree that there are visual and audible impacts associated with logging trucks driving in and out of an area, there will not be an excessive number of trucks moving through private subdivisions. Based on numbers of trees being cut and days of operation available during the six month period of activity in the North Barton sale area, between one and two loads per day will be moving through the Peak 7/Coyne Valley Subdivisions. Futhermore, compared to the number of construction vehicles traveling in and out of Peak 7 each day, we don't feel that this additional activity will be obtrusive. We also hope you realize that the North and South Barton Hill timber sales will continue for two and three years, respectively; after this period (1987) there will be no logging activity conducted in the area for another fifteen years.

We understand that logging operations are an emotional issue in Summit County and intend to work very closely with the U.S. Forest Service as the proposed sales are reviewed and implemented. We encourage you and other concerned citizens to do the same. We firmly believe that the time has come in our county to begin improving our forests by creating openings where new growth can occur. We support the efforts of the Forest Service in this particular sale and others around the county and hope that through effective public information, coupled with exemplary performance on the part of the contractors awarded the work, the public will also realize the benefits of these activities.

We'll look forward to discussing this issue with you further in the near future.

Sincerely

BOARD OF COUNTY COMMISSIONERS
OF SUMMIT COUNTY, COLORADO

By: Don Peterson
Don Peterson, Chairman

DGP:pc

ECONOMICS OF FEDERAL TIMBER SALES

WEDNESDAY, JUNE 5, 1985

House of Representatives,
Subcommittee on Forests, Family Farms, and Energy,
Committee on Agriculture,
Washington, DC.

The subcommittee met, pursuant to call, at 9:40 a.m., in room 1302, Longworth House Office Building, Hon. Charles Whitley (chairman of the subcommittee) presiding.

Present: Representatives Weaver, Huckaby, Olin, Morrison, Marlenee, Chappie, Smith, and Schuette.

Also present: Representative E (Kika) de la Garza, chairman of the committee, and Representative Craig.

Staff present: Phillip L. Fraas, counsel; Robert T. Lowerre, associate counsel; John E. Hogan, minority counsel; Glenda L. Temple, clerk; Bernard Brenner, Nick Ashmore, Charlie Rawls, John Conrad, and Carol Ann Dubard.

OPENING STATEMENT OF HON. CHARLES WHITLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA

Mr. Whitley. The Subcommittee on Forests, Family Farms, and Energy will come to order. The Chair has a brief opening statement.

As many of you know, the hearings we are holding today and tomorrow are part of a comprehensive review this subcommittee is making of the economics of Federal timber sales. In February, we held a full day's hearing in which Chief Peterson and Deputy Assistant Secretary MacCleery presented the views of the administration on issues related to the economics of Federal timber sales.

At that hearing, we were told that the economics of Federal timber sales is a major and continuing interest of the Department of Agriculture. We viewed the February hearing as an opportunity for the Forest Service to present and explain its view of how economics figures into the broader question of forest planning.

The hearing also provided the subcommittee with a detailed picture of how the Forest Service is attempting to implement its multiple-use, sustained-yield mandate.

As a result of the February hearing, we could see that the below-cost sales controversy needed to be better defined if the Congress was going to be be able to make informed decisions about the issue. Thus, the concept of using a charter for subsequent hearings was decided upon. The charter would state our objectives, define issues, and give witnesses specific questions to address. The charter was viewed as a document to help witnesses and the subcommittee effectively cope with the complex issues under consideration. I hope this lofty goal is being realized.

My intent is to fully review, from all perspectives, the issue now referred to as the below-cost sale of Federal timber. Without objection, a copy of the hearing charter will be printed, along with the testimony presented today.

[The charter follows:]

CHARTER

Hearings on the Economics of Federal Timber Sales

Subcommittee on Forests, Family
Farms, and Energy
of the
House Committee on Agriculture

June 5, 1985 - 1302 Longworth Building
June 6, 1985 - 1302 Longworth Building

Objectives

1) In general to review the various issues associated with the sale of Federal timber at prices that do not cover certain costs to the government.

2) To explore the problem of defining "below-cost" sales, and accounting for all the costs and benefits of Federal timber sales.

3) Within the constraints of objective #2 above, to understand the extent, effects, and impacts of "below-cost" Federal timber sales.

4) To explore the desirability and implications of proposed solutions to the below-cost sales issue.

Issue Definition

The business of selling timber is usually thought to be a profitable enterprise for both private entities and for the U.S. Forest Service, the primary Federal agency responsible for managing public forestland. However, recent studies have found that the cost of the Forest Service timber sale program exceed the revenues derived from the sale of timber in some regions and on many individual timber sales (below-cost sales). Although Federal timber sales have been controversial in the past for a number of ecological and environmental reasons, these findings have focused renewed attention on the economic aspects of the Federal timber sale program.

The issue before us extends beyond a cash-flow or accounting analysis of whether the timber sale program breaks even, turns a profit, or loses money. The use of economic factors in decision-making on timber management in the National Forests has implications for the use and management of other forest resources. For example, it has been argued that below-cost sales may indicate timber management on lands that are unsuited for timber production. Additional problems arise if the timber management program, in areas where below-cost sales are prevalent, precludes other forest uses, or causes increased environmental risks. Thus, monetary return to the Government from the sale of timber is one criterion in considering timber sales. Also at issue is the factors involved in deciding whether an area should be managed for timber production, what conditions and constraints are appropriate for timber harvesting, and Forest Service accountability for the efficient and effective use of the taxpayers' money in the Federal timber business.

Background

With the passage of the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974, as amended by the National Forest Management Act (NFMA) of 1976, consideration of economics was required in National Forest management and planning. Previously, timber production from National Forests was based on the biological capability of the land to grow timber. There was no mandate to consider the profitability of the timber business or the needs, supply, and demand for forest resources. We are told that §6(k) of NFMA was a compromise drafted to address questions about timber sale economics and the suitability of lands for producing timber. The Forest Service maintains §6(k) does not require a strict economic test to determine suitability. However, the exact implications of §6(k) have never been fully tested in the Courts. Section 6(k) of NFMA states:

> In developing land management plans . . . the Secretary shall identify lands . . . which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible, as determined by the Secretary, and shall assure that, except for salvage sales or sales necessitated to protect other multiple-use values, no timber harvesting shall occur on such lands for a period of 10 years. . .

Over the years, the Forest Service has promoted its timber sale program as a way for the Government to generate revenues to the Treasury. While timber sales were generally thought to be profitable, the Forest Service has recently acknowledged that some sales lose money.

During 1984, three studies were completed by individuals outside the Forest Service, that also identified areas where Forest Service costs exceeded revenues. (Studies were by the

General Accounting Office, the Congressional Research Service, and the Wilderness Society. For more information on these studies see Summary of Recent Reports on Forest Service Timber Sale Costs and Revenues, CRS Report No. 84-799 ENR.) Published Forest Service data generally confirms these findings. However, precise analyses appear to be made very difficult at present by the system the Forest Service uses to report costs and revenues.

The Interior Subcommittee of the House Appropriations Committee was one Congressional Committee to address the problems suggested by these studies. As a result, the House Appropriations Committee in its FY 85 appropriations report for the Forest Service proposed a freeze in timber sale volumes on National Forests where sale costs exceeded revenues in three of the last five years. This directive was removed during Floor consideration of the bill by the House at the request of the Agriculture Committee Chairman to allow a review of the issue by the Committee. However, the Forest Service was appropriated $400,000 to develop a timber sale cost accounting system to provide the necessary fiscal analysis of the timber sale program by the Congress.

The Forest Service has established a task force to explore alternative timber sale accounting procedures. The Forest Service has indicated it will have a system in place before FY 87 appropriations hearings.

At Issue

Much of the debate seems to center on the extent to which a business management philosophy should apply to public forest management. The Forest Service argues that its situation precludes a heavy emphasis on economics and business criteria, that the National Forests are not tree farms to be devoted solely to growing trees at a profit, and that cash returns should not be the sole criterion for selling timber. There is general agreement with the Forest Service premise. However, concerns arise when timber sales routinely lose money and it is not clear whether sale-related benefits exceed costs.

One of the primary questions being discussed is what factors should be considered as timber sale costs and related bnefits, and how should these factors be applied to identify lands not suited for timber production. For example, although access roads are a benefit for timber management, they can also be viewed as a cost because they occupy land that could be used to grow more timber. Similarly, roads have both positive and negative effects on other forest resources and uses. A road may provide access for fishing, hunting and other recreational opportunities, but it can also cause sedimentation that is detrimental to water quality and fish habitat. Discussions also include whether payments made to local governments as a result of sharing Federal timber revenues should be considered a cost of doing business, whether to consider the resulting unemployment if timber sales were to be reduced, and the role of the Forest Service in stabilizing the economies of forest-dependent communities.

Issues and Questions to be Addressed in Testimony

1) Briefly, how do you define "below-cost" timber sales, and what are the implications of the definition on how many sales are placed in the "below-cost" category?

2) The Forest Service admits that some sales are below-cost, but seems to argue that this should not be a major policy concern because:

   (a) They operate under strict environmental constraints that greatly inflate timber sale costs.

   (b) Because they manage for a wide range of multiple uses in a long term perspective, individual timber sale costs and benefits are not presently being accurately accounted for by its critics. Specifically, investments are now being made to assure adequate resources and benefits for the future.

   (c) Proper accounting for the costs and benefits of forest management is nearly impossible because, for example, some resources like scenic beauty, cannot readily be assigned a dollar value.

   Do you believe the arguments presented above by the Forest Service adequately address the concerns raised about below-cost sales. What comments do you have on why this should or should not be a major policy concern?

3) The Forest Service has stated that "the issue of below-cost sales is not primarily an accounting problem." Do you agree? What is the primary problem that creates these below-cost sales?

4) To what extent can the issue of below-cost sales be resolved by developing better cost accounting procedures? Can you specifically list what costs and benefits should be identified in a timber sale accounting system? Are we justified in spending a substantial amount of tax dollars on developing this new accounting system? Please comment on the alternatives now being considered by the Forest Service for its accounting system.

5) Section 6(k) of the National Forest Management Act of 1976 (NFMA) requires the Secretary to identify lands not suited for timber production. This section requires consideration be given to economic, among other, considerations. How has the Forest Service implemented this section of NFMA? Should the factors listed in §6(k) for suitability be considered for individual timber sales? Do you recommend changes or study be given to making changes in this section or its regulations?

6) The land management planning process provides for public involvement in setting management direction for the National Forests. Are you given adequate opportunity to comment on the land management plans and the planning process? Do your comments actually influence the land management plans? Are you given adequate opportunity to review and comment on management area prescriptions? On road network plans? Do you believe that the planning process is the appropriate forum for resolving the below-cost sales issue?

7) Forest roads can provide other benefits in addition to providing access for harvesting timber. For example, Chief Peterson has stated that timbering is "the most cost-effective way" to improve wildlife habitat. What are the other benefits of road construction and timber harvesting generally? In addition, what are the non-cash costs associated with the timber sale program, such as environmental degradation? Moreover, how often and when do timber revenues plus the above benefits outweigh timber sale costs?

8) The Forest Service has stated that road construction costs are not the overriding reason for below-cost timber sales; yet, such sales are often associated with high road construction costs. What are your thoughts on how the Forest Service should allocate construction and other investment costs among resources and over time?

9) The Forest Service, in its testimony before the Subcommittee on February 26, 1985, stated that they are now considering a new timber sales policy to address the below-cost sales issue. What factors would you like to see incorporated in the consideration of a new policy to guide timber harvesting on the National Forests?

Hearing Follow-Up

After the Subcommittee completes its review process, it will file a written report for the House which will include a summary of its hearings and activities, background on the issues studied, and any recommendations for the Appropriations Committee, Congress, and the U.S. Forest Service. The review process will likely include additional hearings and other activities. This report will be filed prior to January 1, 1986.

Mr. Whitley. I would also like to submit for the record two documents which have recently been sent to me by R. Max Peterson, Chief of the Forest Service. The first item is a letter intended to keep the subcommittee informed on the status of the timber sale program accounting study, and the proposed timber sale policy changes referred to by the Department in the February hearing. For those interested, the letter states that the timber sale accounting study is on schedule, but policy changes relating to below-cost timber sales have been delayed indefinitely, pending completion of the accounting system study.

Attached to the letter is a copy of a memorandum the Chief transmitted to all his regional foresters on May 31, 1985. This memorandum calls attention to the need and desirability for planning timber sales with an eye on overall costs and benefits. In addition, the memorandum discusses the desirability of having the timber sale programs on individual national forests better reflect current and future market conditions.

The second item submitted for the record is a letter from Max Peterson explaining the agency's view of improving wildlife habitat through its timber program. This question was raised by the charter for this week's hearing.

[The material follows:]

United States
Department of
Agriculture

Forest
Service

WO

Reply to 1510

Date [illegible]

Honorable Charles O. Whitley
Chairman, Subcommittee on Forests,
Family Farms, and Energy
Committee on Agriculture
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

As followup to information provided to the Subcommittee earlier this year on key issues relating to the economics of Federal timber sales, the following update is provided to keep you informed of the status of the timber sale program accounting study and the proposed policy changes that we referred to in our testimony.

The timber sale accounting study is continuing on schedule. We have looked at the capabilities of our existing accounting system and at procedures followed by other agencies and businesses in the natural resources field. In addition, through a cooperative agreement with Resources for the Future, we are developing methods to account for nonmarket benefits associated with timber management. With the review of current data, budget, and accounting systems largely completed, we are now reviewing alternative accounting methods. These alternative accounting methods vary according to the basic accounting unit, the accounting elements, and the accounting techniques. Enclosed is a listing of those alternatives which we have identified to date.

As we proceed with analyzing the different accounting methods, we will be working with interested groups and organizations to get their views and to assure we have the full range of feasible choices. Although not complete, a listing of those groups is enclosed. The list will be expanded as others indicate interest. We will then begin field testing the alternatives in the near future. This testing will likely not be complete until late summer or early fall.

At the hearing, we indicated that we were considering making policy changes relating to the "below-cost" timber sale issue. As you may recall from the testimony and subsequent answers to questions, one of the main elements of the proposed policy change was the provision which would establish minimum prices of timber sales to assure that the cost of sale preparation and administration would be covered. Certain exceptions to that revised policy were discussed. The minimum or "base rate" policy that we have been following was set historically to assure that each sale produced receipts to the Government. For a number of reasons, we have decided not to proceed with any changes to this policy at this time.

A major factor in this decision was the fact that we are currently analyzing different accounting approaches for both determining and allocating costs and benefits. It does not seem either prudent or efficient to adopt a revised minimum price policy without an agreed on accounting approach which would likely need to be changed before it could be put in place. This is not to be interpreted as lack of concern for the relationship between costs and minimum prices.

The enclosed letter has been sent to Regional Foresters to advise them of direction to follow in developing proposed budgets and programs with regard to economic timber sale offerings. The letter reaffirms existing direction concerning the size of sale programs and assures continued emphasis on economic efficiency.

If you have any questions, please let us know. We will continue to provide you with periodic updates as we have new information that might be of interest to you. In that regard, the final Black Hills Report has been completed and is enclosed for your information. As you will recall, this is a specific economic evaluation of the Black Hills National Forest situation and is the type of analysis that we expect to do on other selected Forests in several other Regions. These analyses should be useful in identifying opportunities for increasing the economic efficiency of the National Forest timber sale program and may lead to additional guidance in the future.

Sincerely,

R. Max Peterson

R. MAX PETERSON
Chief

Enclosures (4)

United States Department of Agriculture
Forest Service
WO

Reply to: 2430 Commercial Timber Sales

Date: MAY 31 1985

Subject: Below Cost Timber Sales

To: Regional Foresters (except R-10)

With all the discussion and attention given to the economics of National Forest management, including the timber sale program, over the past year, we believe it is important to clarify and reemphasize Forest Service guidelines for planning, budgeting, and carrying out the timber sale program on the National Forests. Much of this direction has been discussed with you at the January 1985 Regional Foresters and Directors Meeting.

1. As a general rule, the timber sale program on a National Forest should be managed so that total benefits equal or exceed the costs over time. Exceptions may be appropriate where there are overriding considerations such as the need to control insect and disease outbreaks or maintain the stability of dependent communities. For example, the livelihood of a dependent community should not be threatened by a short-term turndown in the timber market which adversely affects the short-term economics of the timber sale program.

An analytical display similar to that shown in Table 25 of the FY 1984 Report of the Forest Service (copy enclosed) may be used to reflect overall benefits and costs of the timber sale program on an individual National Forest. An analysis done for a forest or a drainage to reflect costs and benefits over time appropriately discounted may be helpful in better reflecting long-term economics.

2. The timber sale program should be planned and conducted in an economically efficient manner, consistent with multiple-use principles and in conformance with applicable land management plans. Timber sale procedures and requirements which either increase costs or reduce receipts should be carefully reviewed to assure that cost/benefit considerations are taken into full account in the decisionmaking process.

Sample National Forests have been selected in several Regions to evaluate opportunities to further reduce timber sale costs and/or enhance revenue. These studies could lead to additional guidance. In the meantime, every effort should be made to plan timber sales to achieve land management objectives in the most cost/revenue effective manner. Most of you have used special procedures such as value analysis to improve the efficiency of National Forest management. We encourage you to continue such efforts.

3. Within the flexibility provided by land management plans, the timber sale program on an individual National Forest should reflect present and future anticipated market conditions. Indicators that the timber sale program may be out of step with markets are (a) increasing number of

offered but unsold sales; (b) annual timber sale volume exceeding harvest levels over several years, resulting in excessive buildup of timber under contract; or (c) excessive bidding running up the price of timber to a point that sales may not be economical to harvest. As a general guide, the volume of timber under contract should be 2-3 years of normal annual harvest level.

In developing budget proposals and in negotiating timber sale targets, Forest Supervisors and Regional Foresters should consider market demands and be sensitive to the overall cost/benefits of the timber sale program on individual National Forests.

On those Forests where cost/benefits are marginal as determined by an analysis similar to that in the enclosure, the following guidelines apply:

--Manage the timber sale program over time so as to avoid building up the volume of timber under contract in excess of 2-3 years of normal annual harvest level. Avoid increasing the timber sale program if to do so would encourage investments in additional manufacturing capacity where long-term economics indicate such investments are not economically viable. Exceptions to this guideline may be appropriate where an increase in the timber sale program is necessary for salvage, insect or disease control, or when timber sales are the most cost-effective means of achieving a specific multiple use objective or when new investments to change types of products or raw material would be economical.

--During periods of unexpected low demand and where adequate volume of timber is under contract, the Regional Forester may authorize Forest Supervisors to delay the offering of up to 30 percent of the planned timber sale program, if justified, based on reduced harvest levels. Financed timber sales not offered on the market will be fully prepared "on the shelf" and offered when market demands improve. These sales would be offered in addition to the regular timber sale program in out-years.

We now have a minimum or "base rate" policy which was set historically to assure that each sale produced receipts to the Government. At the last RF&D Meeting, we discussed a proposal to revise that policy to require that minimum prices for regular sawtimber sales would be set at levels which would cover average costs for sale preparation and administration. Certain exceptions to that revised policy were discussed. For a number of reasons, we have decided not to proceed with the proposal at this time. A major factor in this decision was the fact that we are currently analyzing different accounting approaches for both determining and allocating costs and benefits. It does not seem either prudent or efficient to adopt a revised minimum price policy without an agreed on accounting approach which would likely need to be changed before it could be put in place. This is not to be interpreted as lack of concern for the relationship between costs and minimum prices. On the contrary, we strongly encourage you to examine both our costs and opportunities to enhance revenue through closer attention to costs, revenues, and overall multiple use benefits in sale selection and sale planning.

R. MAX PETERSON
Chief

Enclosure

cc:
R-10
Station Directors
Area Director

Limited Distribution

Table 25--Values, costs, and associated outputs for fiscal year 1984 timber sale program

	Units 2/	Regions 1/ Northern	Rocky Mountain	South western	Inter-Mountain	Pacific South-west	Pacific North-west	Southern	Eastern	Alaska 3/	Total 4/
Value of products sold 5/	$MM	33.2	5.5	14.4	7.3	98.9	421.9	94.0	24.4	1.9	701.4
Associated outputs and values 6/											
Wildlife and fish	MMWFUD	0.6	0.3	0.2	0.2	0.7	2.8	0.6	0.4	0.7	5.9
	$MM	12.8	6.1	5.0	4.5	12.8	62.9	11.8	8.0	4.1	128.0
Recreation	MMRVD	2.5	1.1	1.0	1.0	2.7	11.5	2.5	1.5	0.6	24.7
	$MM	11.1	6.3	4.9	4.8	14.3	67.7	13.0	11.0	4.3	137.4
Range	MAUM	15.2	6.9	6.3	6.0	17.0	71.4	15.6	9.6	--	148.0
	$MM	0.2	0.1	0.1	0.1	0.2	0.8	0.1	0.1	--	1.6
Free-use fuelwood	MMBF	59.7	45.4	135.0	48.8	22.9	76.2	125.5	50.8	6.1	570.4
	MUsers	16.4	17.9	48.7	16.9	10.7	24.3	53.8	15.3	3.6	207.6
	$MM	0.1	0.3	0.6	0.3	0.2	0.3	0.7	0.1	0.6	2.6
Costs of production 7/	$MM	34.5	12.0	12.8	15.1	52.0	109.8	35.1	21.7	10.7	303.8
Net (value less cost)	$MM	22.9	6.3	12.2	1.9	74.4	443.8	84.5	21.9	0.3	667.2
Roads 8/	$MM	40.9	18.0	9.6	10.6	45.1	92.7	39.0	17.7	20.0	293.5

1/ Data are for National Forests and Grasslands only. Does not include Regional office or Washington office costs.

2/ $MM = million dollars, MMWFUD = million wildlife/fish user days, MMRVD = million recreation visitor days, MAUM = thousand animal unit months, MMBF = million board feet, M Users = thousand users.

3/ Includes the timber sale program for the Tongass National Forest as directed by the Alaska National Interest Land Conservation Act, December 2, 1980.

4/ May not add due to rounding.

5/ This is the value of sawtimber, pulp, poles, and miscellaneous products such as posts, fuelwood, and Christmas trees. It does not include road values (purchaser credit or purchaser elected roads) or brush disposal, but does include K-V and salvage sale fund collections. The total value sold includes nonconvertible product value (approx. $1.6 million) and the value of the long-term sale volume released (approx. $1.1 million). These values are not included in Tables 23 and 24.

6/ These represent total quantities of selected outputs associated with the annual timber program, based on constant per-MMBF relationships in the 1985 RPA data base, current management alternative. These are the best estimates of field managers. Values per unit output are based on those published in Table F.2, adjusted to 1984 terms, of the Draft Environmental Impact Statement for 1985 Resources Planning Act Program, except free-use fuelwood which is estimated annually by field managers. A Forest Service task force is currently studying the assignment of such associated outputs, costs, and benefits to the timber program.

7/ These are National Forest costs of producing sawtimber, pulp, poles, and miscellaneous products. This includes timber management planning, silvicultural examination, sale preparation, harvest administration, salvage sale activities, resource support to timber and K-V reforestation and TSI. Not included are general administration, timber management support to other resources, and road costs.

8/ Roads are considered capital assets that have a cost and a value. Included are Forest Service appropriated, purchaser credit, and purchaser elected road construction, and all engineering support expenditures.

United States
Department of
Agriculture

Forest
Service

WO

Reply to 1510

Date JUN 3 [illegible]

Honorable Charles O. Whitley
Chairman, Subcommittee on Forest,
Family Farms, and Energy
Committee on Agriculture
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

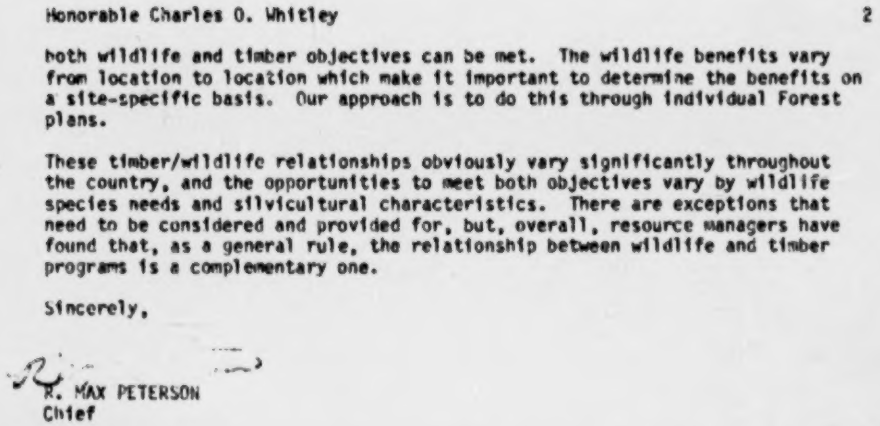
The charter prepared for the upcoming hearing on the economics of Forest Service timber sales identifies the issue of timber sale benefits, other than revenues, for comment by witnesses. We would like to comment on the point (Item 7, page 5) where we were quoted "that timbering is 'the most cost effective way' to improve wildlife habitat."

Multiple use management of forest land is based on the philosophy that multiple objectives can be attained simultaneously. Through Forest planning a number of alternatives are analyzed that propose different ways of attaining multiple objectives. These alternatives normally vary by a number of factors depending on which resource or combination of resources are emphasized in a management unit, the intensity or level of investment in a resource, and the timing or scheduling of resource development. The preferred alternative which in final form is developed into the Forest management plan represents what is determined to be the best mix of resource uses considering physical, biological, economic, and social factors.

In most cases, different resources, including water, recreation, range, wildlife and timber can be managed so that outputs are either increased or maintained at existing levels in the long-term. The timber/wildlife interrelationship is a prime example of the opportunity to accomplish multiple objectives and integrate or blend various programs together.

Managing and improving wildlife habitat for many species of wildlife means manipulating in some way the natural vegetation. On forest lands this manipulation or vegetative management often centers on timber harvest which is used to provide the variety in both spacing and timing that is necessary to sustain many wildlife populations. This diversity within a forest ecosystem is recognized as a critical element in management of wildlife habitat.

In many situations, accomplishing wildlife habitat diversity through the long-term sustained timber program is the most cost effective approach to wildlife habitat management. Cutting unit design and scheduling of the timber harvest can be balanced with the wildlife habitat needs so that



Honorable Charles O. Whitley 2

both wildlife and timber objectives can be met. The wildlife benefits vary from location to location which make it important to determine the benefits on a site-specific basis. Our approach is to do this through individual Forest plans.

These timber/wildlife relationships obviously vary significantly throughout the country, and the opportunities to meet both objectives vary by wildlife species needs and silvicultural characteristics. There are exceptions that need to be considered and provided for, but, overall, resource managers have found that, as a general rule, the relationship between wildlife and timber programs is a complementary one.

Sincerely,

R. MAX PETERSON
Chief

Mr. WHITLEY. This concludes my opening remarks and I am happy to recognize other members of the subcommittee for opening comments.

OPENING STATEMENT OF HON. SID MORRISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. MORRISON. Thank you, Mr. Chairman, and good morning.

I join you in welcoming our distinguished guests scheduled to appear before the subcommittee during these 2 days of hearings on the subject of below-cost timber sales. All of us greatly appreciate the time involved in all of you being here with us.

There is a great deal of concern and interest about the process which the U.S. Forest Service uses when preparing and carrying out timber sales in our national forests. These sales have a far-reaching impact on the economic health of our Nation, and the States, and counties where these forests are located and the quality of our environment, including wildlife management, soil erosion, recreation, and esthetic value.

While we may ask simple questions about the various timber policies, including timber sales, we should not expect simple or easy answers. As you so aptly pointed out in our first hearing, Mr. Chairman, if the Forest Service has the same working procedures as a private firm, then the cost-to-revenue ratio would look much better. If that were the case, there would be no need for these hearings, but multiple use is a part of the law; the Forest Service is an arm of the Federal Government, not a private, for profit company. Questions have been asked about Forest Service timber sales and we are here today to listen to various answers to those questions.

At our first hearing in February, we heard from the U.S. Forest Service. The testimony presented was very enlightening and has been helpful to us as we continue to broaden our understanding of the complexity of these sales. Since that time, I understand that the Forest Service has had a task force looking at its accounting system and possible changes for improvement. All of us look forward to reviewing the findings of that task force when they are ready for us.

Mr. Chairman, I commend you for the extensive schedule you have prepared for the subcommittee for the next 2 days. The list of witnesses is extensive and represents the appropriate interests. The testimony will be of great help to us as we look at how these sales affect Americans and our quality of life.

Thank you, Mr. Chairman.

Mr. WHITLEY. Thank you, Mr. Morrison.

Mr. Chappie, do you have any comment?

Mr. CHAPPIE. No comment. Thank you, Mr. Chairman.

Mr. WHITLEY. Our first panel of witnesses will consist of Mr. Peter Kirby, vice president of resource planning and economics of the Wilderness Society, of Washington, DC; Mr. Lynn Greenwalt, vice president of Resource Conservation, National Wildlife Federation of Washington, DC; Mr. Tim Mahoney, Washington representative with the Sierra Club of Washington, DC. If you gentlemen will come forward and be seated at the table, we will call on you in the same order that I called your names initially. We will let all three of you proceed with your testimony and when it is concluded, please be available in case members of the subcommittee have questions.

The Chair would also like to state that in the interest of time and in order to give the subcommittee an opportunity to hear as many witnesses as possible, that we will accept your entire statements which you have submitted to us in writing for the record and we will ask that each of you summarize that statement for us in 5 to 10 minutes, not to exceed 10 minutes, in order that we might reach as many witnesses as possible and still have your full statements for the record.

Mr. Kirby, we will proceed with you, sir.

STATEMENT OF PETER C. KIRBY, SENIOR COUNSEL, RESOURCE PLANNING AND ECONOMICS DEPARTMENT, WILDERNESS SOCIETY

Mr. KIRBY. Thank you, Mr. Chairman. I am Peter Kirby, representing the Wilderness Society.

Along with the other conservation groups, the State agencies, and citizen witnesses in this room, we appreciate this opportunity to present to the forestry subcommittee another side of the story about the economics of the Federal timber sales. These hearings are very timely.

As you know, the spending on the Forest Service timber sales program is the number one big-ticket item in the Forest Service budget. In recent years, this spending has run over $600 million annually, out of an appropriation of around $1 billion annually, for the National Forest System. Spending for other multiple uses like recreation, fish and wildlife, and watershed is minor by comparison.

With growing concern over reducing the Federal deficit, streamlining Federal agencies and identifying hidden subsidies, it is thus most appropriate to ask the question: Is the public getting its money's worth out of the Forest Service timber sales program? We submit that the answer is no. The timber sales program is producing unacceptable levels of environmental damage throughout the country, including the destruction of millions of acres of potential wilderness and the taxpayer is footing the bill for the sale of billions of board feet annually that actually loses money for the Federal treasury.

As we shall discuss, we seek to bring the Forest Service timber sales program into better balance with the other multiple uses and with the economic realities of 1985.

As the first speaker in a day with many diverse and expert witnesses to follow, I would like to briefly respond to the central questions posed by the committee in its charter. In order to provide an overview of the problem and possible solutions, let me briefly discuss, first, what are sales below cost and what is the extent and location of such sales; second, why do such sales occur; third, how adequate is the response by the Forest Service in its forest planning and its accounting system; and, last, what solutions should be adopted to address this problem?

First, sales below cost are sales in which receipts from the timber do not cover the costs to the Forest Service of selling the timber. They are literally sales below cost; that is, sales that lose money to the Federal Government. There have been a number of studies over the past decade that document the existence of sales below cost, as later witnesses will describe in more detail.

These studies all reach a similar conclusion. Sales below-cost exist and constitute a significant and pervasive problem with the Forest Service timber sales program. The Forest Service confirmed these findings in its own annual report for fiscal year 1983, published last year. The Forest Service reported that it sold 37 percent of its timber volume, about 4 billion board feet, at prices less than cost.

To provide the committee more specifics about the problem, I would like to focus for a moment on the study that the Wilderness Society issued in 1984. We examined the Forest Service's sales programs in 3 years, 1978, 1982, and 1983, which reflected a full range of economic conditions. We compared the costs of the timber sales program for that year with the high-bid receipts for that same year, thus comparing apples and apples.

We found that in all years examined, the Forest Service sold timber at a net loss in a majority of Forest Service regions, the northern, the eastern, intermountain, Rocky Mountain, and Alaska. In some years, like 1982, losses from sales below-cost exceeded $200 million.

For 1982, we did a forest-by-forest analysis which is attached to my testimony. If I could direct your attention to it for a moment, it follows at the end of page 13. It is appendix 1 from our study.

As you can see, it goes through each forest alphabetically by region and lists the timber costs, management and roading, and the total and compares that to the timber receipts for the timber sold that year, thus giving you a net timber receipts, positive or negative. In the last column, there is the ratio of timber receipts to cost.

We hope this will help you make up some of your own minds about this issue. Note just one thing, that in many forests, like the

Beaverhead, first in line, even the timber management costs just for selling the timber far exceeds the timber receipts, even putting aside the question of roads.

In sum, Mr. Chairman, the facts are compelling that sales below-cost is a significant and pervasive problem. Why do sales below-cost occur? Basically for two reasons: First, the Forest Service is selling timber on sites that are not suitable, sites that are at high elevations, with slow-growing timber, under harsh conditions, and with timber that is of poor quality.

Then, on the other hand, it is very expensive to road these areas and to mitigate the environmental damage from these sales. So the first problem is bad planning in carrying out the timber sales and then, second, this is compounded because of the pricing system the Forest Service uses, the residual pricing system, so-called, which does not take into account the cost to the Federal Government of putting up the sales.

What is the Forest Service doing about this problem? The short answer, Mr. Chairman, is that the agency is stonewalling. It has circled its wagons and is stoutly resisting any meaningful change. In fact, if the Forest Service gets its way, the problem will become much worse, much, much worse.

Let's discuss briefly land management planning and the accounting system. As you know, the Forest Service is now in the process of producing detailed 50-year land management plans for the entire system. In response to the concerns expressed in 1976 about uneconomic timber sales, Congress directed the Forest Service in the National Forest Management Act to identify land in its plans that are unsuitable for timber management based on physical and economical factors. This is section 6(k) of the NFMA.

Our review of NFMA plans, however, reveals that the Forest Service is not faithfully implementing section 6(k) to serve the purposes intended by Congress.

The Wilderness Society is undertaking an extensive examination of 14 draft forest plans across the country. To date, we have completed our review of draft forest plans for the following national forests: White Mountain, Cherokee, and Beaverhead.

For the benefit of the committee, I would like to submit these critiques for the record.

[The critiques are held in the committee files.]

Mr. **Kirby**. We are also appealing final forest plans in Colorado and Alaska that involve the adequacy of the section 6(k) review.

To repeat, our experience has shown that the implementation of section 6(k) is seriously and illegally flawed in two major respects. Very briefly, first, the forest plans simply do not identify lands that are economically unsuitable for timber production based on a comparison of expected timber receipts and costs. Instead, the so-called present net value analysis used by the Forest Service lumps together all multiple-use considerations and thereby hides from the public, Congress, and the Forest Service decisionmakers, the exact extent to which lands allocated to timber production are economically unsuitable.

Second, the forest plans allocate as land to timber production as is needed to meet the timber harvest goals selected for the plan. Under this top-down approach planning, the Forest Service presses land into timber production in order to meet high harvest goals, even though it may be uneconomic.

Let me close on this point by just illustrating briefly with a couple of examples that might be of interest to the committee. Turning back to our appendix, just to give a couple of examples from various regions, the Clearwater National Forest only recovers 26 cents on the dollar, yet the Forest Service is proposing to double timbering. The San Juan National Forest only gets back 3 cents on the dollar, yet, again, the agency proposes to double timbering.

In the South, the Cherokee National Forest only gets back 23 cents out of every dollar spent, yet the agency is proposing to triple timbering; and in New England, the White Mountain Forest only gets back 34 cents on the dollar, yet again, the agency plans to double it.

Last, in region 10, Chugach is at the bottom of the list and gets 1 cent back on the dollar, yet the agency is proposing a sixfold increase in timbering.

Mr. Chairman, the Forest Service has turned congressional direction upside down. Instead of using greater economic common sense in its planning process, the Forest Service, if it gets its way, will make the problem of sales below-cost much worse.

Turning very briefly to the accounting system for a moment, as you know, Congress directed the Forest Service to set up an accounting system because the Appropriations Committee last year couldn't get the data it needed to make sound budgeting decisions. The Forest Service is currently developing this accounting system, but we are very concerned that the Forest Service will use this to find ways to continue to overstate timber benefits and understate timber expenditures. As one brief example, in this year's annual report that came out recently, the Forest Service has a table 25 that reports that the timber program produced 148,000 animal unit months of grazing and the Forest Service values that at $10.81. Yet, as you know, under current law, the Forest Service only receives $1.37 per AUM. So we think the accounting system—it may well be overstating benefits.

Let me conclude by listing the changes we would like to see in policy. First, we would like to see land management plans adopted that identify lands that are unsuitable for timbering based on receipts and costs and take those lands out of production. Second, we would like to see an accounting system that likewise looks at a clean financial picture of the timber sales program and gives Congress and the public the information it needs to make sound budgeting decisions.

Third, we urge the Forest Service to itself take meaningful steps to address this problem, like the options the Chief presented to you last February. We are very disappointed that they are not going to be considering those for adoption in the near future. We think there should be a floor for stumpage rates that at least recover Forest Service costs.

Finally, the Wilderness Society urges Congress to direct the Forest Service to eventually phaseout timber sales below-cost and to allow limited exceptions, as provided under the law.

One last comment, Mr. Chairman, the Wilderness Society doesn't believe economics should be the sole criterion for making decisions.

Rather, along with Mr. Morrison a moment ago, we believe that the overriding considerations should continue to be sound, multiple-use management for the benefit of the American people. The changes we have urged will help identify the economics of the timber program more clearly and make it possible to factor economics more solidly into decisionmaking.

Thank you.

[The prepared statement of Mr. Kirby appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Kirby, and if you will remain for possible questions when the remainder of the panel has been heard.

Our next witness will be Mr. Lynn Greenwalt, who has been previously introduced as the vice president of resource conservation, National Wildlife Federation.

Mr. Greenwalt.

STATEMENT OF LYNN GREENWALT, VICE PRESIDENT, RESOURCES CONSERVATION, NATIONAL WILDLIFE FEDERATION

Mr. GREENWALT. Thank you, Mr. Chairman, and members of the subcommittee. I am very pleased to be able to be here and present the views of the National Wildlife Federation on this very important subject.

The National Wildlife Federation is the Nation's largest conservation education organization with 4.5 million members and supporters and has 51 affiliated State organizations as a part of its membership. We have had a longstanding concern for the proper management of the national forests in this country.

The National Forest System, we believe, is the Nation's natural resource reserve. National Forest lands provide for wildlife habitat, productive fishing streams, recreational opportunities, clean water for domestic use in irrigation, timber, and range. These lands are distinct in their management goals and purposes from private forest lands. They are to be managed under the principles of multiple uses and sustained yield. All natural resources on public lands are to be protected and the productivity of the land must not be impaired.

These are the high principles of stewardship which Congress has set forth in the law for management of national forests. Yet our members, federation members throughout the country, question whether the promise of the law is being met. They witness roads being built in areas critical to elk, bear, and other wildlife species. They encounter land managers being compelled to meet unrealistic goals for timber production; goals which do not take account of the many other forest resources. They become convinced that noncommodity values are being sacrificed to maintain or boost the production of timber and livestock grazing.

There are many examples, Mr. Chairman, of wildlife declines, general environmental degradation that can be attributed to roadbuilding and timber harvesting. They continue—they continue apace, despite their impact on wildlife and other natural resources of the forest.

The environmental degradation from roading and harvesting on national forests all have one thing in common: They have primarily occurred on land where Federal investments in timber management lose money. From the federation's perspective, this subcommittee's examination of below-cost timber sales is an important opportunity to restore protection of wildlife and other natural resources of our national forest lands.

The public land manager has decisions to make. He must decide where public moneys are invested to yield the greatest return. The investment decision should consider the environmental consequences of the project, the immediate and long-term financial return to the Government, and the effects on local communities and economies.

However, Mr. Chairman, it is not the decision of the public land manager responsible for each national forest whose decisions are most critical. In point of fact, it is the Congress, the public land manager for all of our public lands, which must guide and direct those investment decisions. The first, and most important question for the Congress to resolve is where will the public's investment in timber production yield the greatest return to society.

It is axiomatic that some forest lands are more productive of timber than others. In addition to inherent biological productivity, the profitability of timber management investments is affected by other factors, such as proximity to the mill, difficulty of access caused by terrain, and the need to protect nontimber values. All else being equal, investments made in timber production on more productive forest lands are more profitable than identical investments on less productive lands.

What, then, is the appropriate role for the Federal Government when it enters the marketplace in competition with private suppliers of timber? The National Wildlife Federation believes that the multiple-purpose goals of public lands and the industrial goals of an adequate and economical supply of timber are best met by limiting investment in timber management to lands where the costs exceed the benefits. By limiting, I mean to consider very carefully the consequences of unprofitable investments.

The federation and its members understand that timber harvesting is appropriate on national forests, but harvesting that both degrades natural resources and loses money is not good public policy.

One of the investment criteria for timber management on public lands should be the effect of Government decisions on local communities. There are communities dependent on the harvest of timber from economically unsuitable forest lands. In some cases, these communities were founded on harvesting from more productive private lands which had been cut over either too quickly to sustain the community or have not had the needed investment in reforestation. Other cases, equally unfortunately, the communities are creations of misguided Forest Service policy.

Mr. Chairman, uneconomical investments in timber management on public lands of low productivity are a needless expense of taxpayers' dollars, represent unwarranted competition with private producers of timber, and put at risk the natural resources for which these lands of the National Forest are best managed.

Mr. Chairman, we recommend, the National Wildlife Federation recommends that the Forest Service adopt policies which generally limit investments of public funds in timber management on forest lands where the present net value of the timber costs and receipts is negative. Exceptions, of course, could be provided where the Forest Service proves that the amenity values associated with timber management and investment therein outweigh the net loss associated with timber.

Mr. Chairman, among the witnesses that will appear this afternoon are many who are far better informed than I, but I commend to your attention most specifically the testimony that will be given my Mr. Andy Stahl, who is the National Wildlife Federation's forester and forest economist. He will address the specific examples of poor investment decisions by the Forest Service and will be prepared to discuss in detail the use of economics in forest decisionmaking.

I have attached to my statement, as you will note, Mr. Chairman, the specific responses to the questions posed in the charter. I would be pleased to discuss those and any other questions you or the members of the subcommittee may have.

Thank you very much, sir, for the opportunity to appear this morning.

[The prepared statement of Mr. Greenwalt appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Greenwalt, and as previously announced, your entire statement and the attachments will be included in the record.

If you, too, will remain until after the other witness on the panel has testified in the event that there are questions——

Mr. GREENWALT. I shall.

Mr. WHITLEY. Our next scheduled witness, previously introduced, is Mr. Tim Mahoney, the Washington representative of the Sierra Club. We would be happy to hear from you, Mr. Mahoney.

STATEMENT OF TIM MAHONEY, WASHINGTON REPRESENTATIVE, SIERRA CLUB

Mr. MAHONEY. Thank you, Mr. Chairman. I am Tim Mahoney, from the Sierra Club, and we are very pleased to be able to testify here today.

I am sure that many of the Sierra Club's 350,000 members are fiscal conservatives, but that is probably not why they joined the Sierra Club. They are mostly concerned with the environment, preservation of wild environment, protection of the environment, avoiding the degradation of the environment, and are quite used to battling economic projects of the Federal Government or others and being told th the environment is well and good, but the economics of this project are so overwhelming that they must overwhelm environmental concerns.

So it is extraordinarily frustrating for our members to work on forestry matters and find that their environmental concerns coincide with good economic thinking in many, many instances and that the environmental degradation that is proposed through development is wasteful in terms of our spending.

I want to specifically address how this looks in the megasense here in front of the Congress and how I try to answer what our members say to me with their complaints coming from the individual forests.

The most expensive aspect of the Forest Service timber program is its roadbuilding. It is probably also the most environmentally damaging. I think it is important to go back over the road program a little bit. There are two basic kinds. There are forest roads which the Congress appropriates the moneys for fully. These are sometimes defended as multiple-use roads. They are of a higher standard. They are pretty expensive to build and they tend to access large areas, many times large, undeveloped areas.

Second are purchaser credit roads which are part of the timber sales themselves. They tend to be built by the contractor of the timber sale and they tend to be shorter. They tend to be of lower standard, although in total, they are much more prevalent in terms of the total mileage of the Forest Service road system. In fiscal year 1986, the Forest Service is projecting maybe 7.5 times as many miles of purchaser credit roads as there will be Forest roads.

These roads aren't directly appropriated by the Congress, but they do cost money. The cost of these roads is deducted from the value of the timber that the Federal Government asks for, deducted from the price, although the Forest Service helps with the engineering on these roads, and that is fully appropriated by the Congress, probably to the extent of in excess of $100 million a year.

The Forest Service has testified before this subcommittee, and with show-and-tell charts for individual forests, that the roadbuilding process is really a multiple-use one; that we shouldn't count the cost of the roadbuilding program against timbering; that recreational driving, access to wildlife, those are all benefits.

That is not what our members find on the ground. We find that the roads are being built to access timber stands and that any benefits are being calculated in hindsight and that the environmental degradation tends to be underassessed.

I am used to listening to the Forest Service testify before this subcommittee and the Appropriations Committee about how you have to think about wildlife management and you have to think about these other programs and if we were just there for the timber, we could make a lot more money. They show specific examples in trying to prove a very general case.

I would rather look at the overall case as the Forest Service itself portrays it in its most recent report on its programs. That is the report for fiscal year 1984. If we just look at a few of the programs that are either in direct conflict with the timber program or associated with it, we can look here at the percent of accomplishment, how did the Forest Service reach its own goals, not our goals, Mr. Chairman, not how we would manage the forest, but the Forest Service's own goals.

This is not money. The money would be much more skewed toward the bottom figures. This is percentage of goals. When we get to trail construction, for example, which is a way to look at how the Forest Service responds to primitive recreation demands, we see that in fiscal year 1984, the Forest Service was able to work on trail construction up to 24 percent of its own goal for desirability; various aspects of soil and water resource improvement programs, 28 percent; wildlife habitat improvement, which is often used as a justification for the timber program, only reached 34 percent of its goal. But the timber volume offered was 98 percent of its goal. Even though the last few years have seen a very soft demand for timber off of the national forests, the offerings themselves are right up there with the long-term goals.

But what is most astounding is forest road construction. This is the direct construction appropriated by Congress. In fiscal year 1984, 140 percent of its goal, 40 percent above perfection. The Forest Service could have held back a little bit and maybe spent the money someplace else, but they did not choose to. I want to put this up as the best example overall of how the Forest Service is reaching its multiple-use goals. They are not.

A second table just looks at the timber offerings versus the timber harvest. This is also from the same document. I have added the expected 1985 fiscal year from the Forest Service's budget documents.

It shows that every year since 1980, the timber offered on the national forests has been far greater than the timber harvested. You are going to expect some variation, some years lower, some years higher, under any program but you can see that the timber harvest never reaches the timber offered. Sometimes it is half as much. In fact, the highest year since 1980 of timber harvest, which is 1984, doesn't reach the lowest year of timber offered by the Forest Service. If you add all these up and the overofferings from previous years, you get a 40 billion board foot surplus of timber which has been sold, but is not harvested.

This is a 4-year supply, at least, according to our rates, and I have a table in the back of my testimony taken from the Forest Service which shows that this oversale is in every region, not just in some regions. The glut is so bad that Congress last year, the Congress passed a timber contracts relief legislation, sometimes called the bailout bill or the buy-back bill, which the companies would cede back the timber without undue penalty and see it reoffered.

We do not oppose this bill. In fact, we supported provisions in the bill that would see that this reoffered timber go first before we go build more roads and access more timber.

I want to stress that all of that timber to be offered has had to have its core Forest Service roads built. They are all built and most of that timber has had its purchaser credit roads built. In some forests, 90 percent or more of all the sales have been fully accessed. Those sales could be harvested at any time. They should go to the top of the class but, instead, the Forest Service is proposing building more roads.

Mr. Chairman, we are no longer talking about the timber sale program of the forest road program compared to other multiple-use values. We are seeing a program here that is running far ahead of the what the timber industry can even swallow. This is like force-feeding a Christmas goose, Mr. Chairman.

The road construction budget is $190 million proposed for fiscal year 1986 budget, $60 million of direct appropriation just for these permanent Forest Service roads. This is a cumulative program, Mr. Chairman, if you freeze it, they just build more roads.

Just grabbing some data since 1982, and just looking at the roadbuilding program, you can see it grows, and grows, and grows, and grows; 5,000 miles since 1982; multiply that by 7 and you get the purchaser credit roads.

The timber sales may slump; the market may be gone; other programs may be begging, but the road program goes racing ahead of the timber sale program itself.

Mr. Chairman, before I close, I would just point out that if you examine the budget documents, you can find specified construction items for trails, campgrounds, administrative sites, down to individual listings for $2,000 for a trailhead reconstruction in Wyoming. You can find every one of them, but if you look at the road budget, if you look at the documents the Forest Service sent up, you can't find out where the expensive roads are and where the cheap ones are. You can't even find out how many are being put in a specific region versus another region.

There is a fivefold variation in the cost of these roads, Mr. Chairman, from $42,000 to $220,000 a mile and the Congress as yet has no handle on where that money is going, and where are the economically effective roads, and where aren't they? We suggest that the Congress take immediate action, not wait until fiscal year 1987, but start working on it this year and stop the Forest Service.

It is already in excess of the timber industry's wildest dreams. It could be stopped at zero. The roads that are already built won't disappear. You can catch some breathing room here to make the long-term reforms necessary.

We also believe that the Congress should cut back on the most expensive of these roads. This is a crude tool, but the most expensive roads tend to be the ones that are causing the most damage because they are accessing the most difficult marginal sites, or at least examine the individual road offerings and force the Forest Service to come up with the specifics of their program.

We would like to see some reforms on the bidding process itself, a minimum bid that would recover some of these costs. We had heard that the Forest Service was going to prepare such a program; now we hear that idea has been squelched somewhere in the administration. We believe the funding for the timber sales program should be contingent upon the Forest Service making these reforms.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Mahoney appears at the conclusion of the hearing.]

Mr. Whitley. Thank you, Mr. Mahoney.

Mr. Mahoney, while you are there, I want to refer back to the first graph that you showed us there when you gave us the various percentages that the Forest Service had accomplished of the goals that they outlined as they went along. If you could put that back up——

Mr. Mahoney. Yes, sir.

Mr. Whitley. My question is, is that a—1984 accomplishments, is that a reflection of Forest Service policy or is that a reflection of congressional appropriation?

Mr. **Mahoney**. As you know, Mr. Chairman, they are intertwined. Our members get very frustrated when they go to the local forest supervisor and finally, when all arguments fail, the supervisor says: "Don't come to me; the Congress sets our program." But the Forest Service obviously submits a budget; they obviously make some choices, and in the budgetary process we see the skewing of this program begin, either what the Forest Service is proposing or what OMB does to the Forest Service tends to push everything to the commodity programs and away from the other multiple-use programs. The Congress tends to either reaffirm this or perhaps even make it worse.

But in the case of the road construction, the Forest Service says that the reason it was able to reach 140 percent of its road construction was because it found some ways of making cheaper roads. It could have returned the money; it could have saved us some money or maybe it could have shuffled some money over to other things, but instead, they just built more roads.

Mr. **Whitley**. There is a line-item appropriation for road construction in the Appropriation Act, is there not?

Mr. **Mahoney**. That is correct.

Mr. **Whitley**. What about the other items? You would not find line items in the other, is that correct?

Mr. **Mahoney**. No; you will find them lumped under different programs, and what this is is the Forest Service actually looking at the number of acres of habitat improvement or the number of miles of trail construction. Some of these are line items and some of them are not.

Mr. **Whitley**. Thank you, Mr. Mahoney.

One question I would like to just throw out and any one of the three of you or all of you might comment on it briefly. I recently read an interview between—the account of an interview between former Assistant Secretary Crowell and Luke Popovitch which was published in the Journal of Forestry, and Mr. Crowell said of your—what he referred to as "recent conversion to cost-consciousness in economics," that "It was a conversion of convenience and not of conviction."

Would you like to sort of comment on that a little bit?

Mr. **Kirby**. If I could comment first, because he specifically mentioned the Wilderness Society in his interview with Popovitch.

Mr. **Whitley**. Yes; he did.

Mr. **Kirby**. The Wilderness Society, the Sierra Club, the National Wildlife Federation have all labored for a long time to establish fair-market pricing for commodity goods that come off of our public lands. This goes back to the BLM Organic Act of 1976 and, beyond that, to our concern about water projects, for example, from World War II on, so it certainly is not a new or hypocritical concern, as Mr. Crowell charges.

Mr. **Greenwalt**. I would say, Mr. Chairman, that the reputation of the National Wildlife Federation and its membership is, if anything, that of a body of fiscal conservatives and has been for 49 years now. We may have just been discovered as having been fiscal conservatives, but I can guarantee we have been for a long time, and it is not a matter of convenience, so much as it is of fundamental conviction, which is the reason why we have been in the forefront of these matters as pertains to equitable prices for public commodities and things of this kind for many, many years.

I am afraid the former Assistant Secretary, in fact, himself just discovered an historical event of longstanding.

Mr. MAHONEY. Mr. Chairman, speaking for the most wasteful and frivolous of the environmental groups, our members have become more sophisticated at analyzing the Forest Service's own economic figures because they have been frustrated by the Forest Service claiming broadly that timber and roadbuilding were economically beneficial and, therefore, should take precedence over wilderness or undeveloped wildlife habitat. We found that that is bogus and whatever. The motivation is primarily protecting the environment, but when we are skimping along trying to find the money to protect the environment, we have got this very fat wasteful program and we would be fools not to point it out to the Congress.

Mr. WHITLEY. Thank you.

Mr. Morrison.

Mr. MORRISON. Thank you, Mr. Chairman. I found all of your testimony most interesting.

Mr. Greenwalt, I would just like to have your response to a sentence or two out of your testimony. Let me quote: "Simply put, we have enough roads on the national forest to serve public uses. We do not want or need any more."

Are you really serious about that, about not building any roads anywhere in the U.S. Forest Service System?

Mr. GREENWALT. Not literally, of course. We have plenty of roads to do the things that must be done now and I suggest that what our position is fundamentally, that we should, before undertaking the construction of additional roads, determine how they fit, not only from an economic point of view, but in terms of their consequences environmentally. There are plenty of roads to do what needs to be done. Any future roads, those developments that are like roads that carry with them the environmental consequences about which we are concerned, we believe must be analyzed, not only in terms of their environmental consequences, but certainly in light of their economic state of grace. That is fundamentally what we ask.

We can do very well those things which our membership cares about with the road system as it presently exists. Future roading and construction of that kind, we believe, simply must be subject to the rigor not only of economic analysis, but environmental analysis.

Mr. KIRBY. May I add something for the record?

Mr. MORRISON. Please do, Mr. Kirby.

Mr. KIRBY. There are already 342,000 miles of national forest road on the National Forest System, not even counting all the State, local, and Federal highways. This is enough to reach 14 times around the planet Earth. So I think there is great weight in what Mr. Greenwalt says about using our existing road system better.

Let me just add one more point that Tim probably could have put in his graph. The Forest Service is not even maintaining the road system that it has at the same time that it is trying to build another 10,000 miles or so each year. So I think we might be able to reprogram some of these excessive new road construction moneys into just maintaining the system that we have and keeping it operative.

Mr. **Morrison**. I would like to ask another question and perhaps all three of you, if I have time, can respond to that.

This subcommittee is going to be looking in the future, I would anticipate, at some sort of a cost-accounting system that the Forest Service is currently working on. In fact, one of the reasons they are working on it is because we feel fairly strongly about it.

I was wondering if the three organizations you represent will have feelings on how you determine a value for the various recreational interests that you represent?

Mr. Kirby, do you want to start on that? How can we apply a value for public purposes from the point of view of the Wilderness Society?

Mr. **Kirby**. The Forest Service does use dollar values now for recreation in its planning. These are based on the willingness of a typical recreation user. So, for example, a day of wilderness use out West is worth $12, according to their estimates.

This, as you might expect, is a very controversial matter and many State fish and game agencies, like in Idaho, think the Forest Service is not valuing these other multiple uses enough and one of John Crowell's legacies to the Forest Service was to direct them to cut the dollar values that they used for recreation, fish, and wildlife.

So we think, yes, a dollar value can probably be put in these uses for planning purposes, but that the Forest Service is not being at its professional best in calculating these now.

Mr. **Morrison**. Can we get your help, then, in calculating what it actually should be? That is my question.

Mr. **Kirby**. Yes, by all means, sir, and we have been meeting with the staff of the accounting task force to advise them week in and week out on their accounting system.

Mr. **Mahoney**. Mr. Morrison, one of the difficulties in this is assessing demand. We have seen the Forest Service sometimes simplistically say that a mile of pleasure driving is worth *x* dollars and a mile of hiking is worth *y* dollars and, therefore, if we build a lot of roads, we can just multiply that by *x* dollars and it shows a big credit. It doesn't take into account demand, where there are already a lot of roads, all the roads you need for driving for pleasure.

Our members in North Carolina—this isn't just a Western issue and it is not just a Rocky Mountain issue—North Carolina, where there is quite a large road system and very few roadless areas left, those roadless areas have very high demand for primitive recreation. They are some of the only areas that have it. The value is probably undervalued and yet even in North Carolina, the Forest Service proposes to road the roadless areas and their own economic projections, even undervaluing this demand, shows that it doesn't make any sense even by the Forest Service's own economic evaluation, which is why our members conclude that they are responding—the agency is responding from some quota being set from above.

Mr. **Greenwalt**. I think perhaps my comments would run more toward a thing which is less economic in the sense of its—our ability to get a grip on the values, and I am thinking now of such things as the wildlife. The natural values of many of these areas would be very difficult to price, particularly as one perceives that as forest lands are intensively managed—indeed, their characteristics changed as a result of roading and other activities—some of the habitat values, indeed, the very presence of wildlife in which our membership is fundamentally concerned, changes materially so that while it is clear that there is no way to price an endangered species—in fact, the law treats endangered species in a vastly different way than it would any commodity—it is inevitable that there is a diminishment; there is a change in the status of wild creatures that inhabit these steadily diminishing blocks of habitat. That is very difficult to price.

The sort of thing that one must consider in the balancing of multiple use. So I suggest that one can never overlook the fundamental fact that while economic analysis is extraordinarily valuable, there are values implicit in these public lands, these natural lands that do not lend themselves to economic analysis. It is very difficult, therefore, for me to suggest that an accounting system and analysis system that is made of numbers and formulas and these kinds of considerations can properly embrace all of the values represented by the National Forest System.

Mr. **Morrison**. I am sure that is true and it is going to be a most difficult task.

Mr. Chairman, I appreciate the extra time.

Mr. **Whitley**. Thank you, Mr. Morrison.

Mr. Smith of Oregon.

Mr. **Smith**. Thank you, Mr. Chairman.

I believe that the Forest Service contends that if you were to eliminate, as suggested, all less-than-cost sales, you would have to find a different source of financing for recreation, environment, watershed, and the ecology of the land where the sale has taken place. If, indeed, you did eliminate all less-than-cost sales, would there need to be funding for the other needs of the forest?

Mr. Mahoney.

Mr. **Mahoney**. The Forest Service often puts this generality forth that timber is a useful tool for the other uses in managing wildlife, in particular, or recreation, and it may be in individual sales, but you can't justify a program overall on that basis. Chief Peterson, in testifying before the Interior Committee earlier this year, mentioned that the Wyoming Game and Fish Department embraces timber cutting and roadbuilding as a way to manage big game and the Wyoming Game and Fish Department sent a letter claiming that that simply was not true; that they are fighting the number of roads because the roads are reducing wildlife escape cover. They may produce—you may be able, through timber cutting, to produce some food for wildlife, but you are cutting back on their habitat requirements.

At any rate, just to point out, the Forest Service itself does not—if it were true that timber is helping these other uses, the Forest Service accomplishments in the rest of their program would be a little higher.

Mr. SMITH. No; I am not talking about the capability usage. I am suggesting that if we follow your suggestion and eliminate all less-than-cost sales, then the fundamental uses of the forest that we have—and that we ought to extend—for recreation, for the environment, for the ecology of the land, for the fish and wildlife, have to be funded and the Forest Service, I believe, contends that they must be funded from another source.

I assume that other source would be the Congress. I wondered if——

Mr. KIRBY. Mr. Smith, could I address that?

Mr. MAHONEY. I would like to finish up here first. I assume what you are saying is correct, but the amount of money necessary to fund these other programs is negligible compared to the amount of money being spent on the roadbuilding and timber programs. What the planning process is showing us is that by the Forest Service's own calculations, the less development is often most cost effective, that the other resources really don't cost a lot to manage and they bring back a lot of dollar value relative to their cost. The timber brings back maybe a big dollar value, but it has a gigantic amount of costs associated with it.

So if you just cut the waste in the timber program, you would have more than enough money to pay for some of these other uses and probably have some left over.

Mr. KIRBY. Let me briefly give a fact or two to back up what Mr. Mahoney just said.

The timber sale program loses about $200 million a year on sales below cost, according to our study, looking at fiscal year 1982 in detail. If you took that $200 million, you would readily be able to supplement the other programs to the extent it is needed and still have $100 to $150 million savings.

Take trail construction on Tim's chart. The trail construction program is less than $10 million a year. That is less than one-twentieth of the entire savings from sales below cost. So to the extent those other programs do need more funding, it would be a big opportunity to reprogram some of the wasteful spending on roads and sales below cost to those.

Mr. SMITH. Are those statistics that you mentioned, are those Forest Service statistics?

Mr. KIRBY. They mesh with what the Forest Service says——

Mr. SMITH. Under present accounting conditions?

Mr. KIRBY. I would say the answer to that is yes. The Forest Service says that——

Mr. SMITH. That is what we are trying to ferret out here. You can identify cost with the present cost-accounting system in the Forest Service. I think you would all agree with that.

Mr. MAHONEY. Right.

Mr. KIRBY. Let me just say one word. The Forest Service itself says that about 37 percent of its volume loses money. That meshes pretty much with our findings, and so if you took 37 percent of the costs out, that is the kind of savings you could realize.

Mr. MAHONEY. Mr. Smith, the RPA Program, overall, was created to be an aid to the Forest Service in the budget program. I think only in 1 year has the actual Forest Service budget reflected RPA, but if they were able to reach 100 percent of all goals, that is supposedly what the agency feels would be the right kind of budget, at least how they projected it out.

Mr. **Smith**. Thank you.

Thank you, Mr. Chairman.

Mr. **Whitley**. Thank you, Mr. Smith.

Mr. Schuette.

Mr. **Schuette**. Thank you very much, Mr. Chairman.

Gentlemen, thank you for being here this morning and for your thoughtful testimony. Several months ago, we had the opportunity to hear from the Forest Service and I am equally intent upon your fine testimony. I also look forward to the remainder of the testimony, both today and tomorrow.

Mr. Greenwalt, just two questions, I believe, for you. Would you not agree that the purpose and the goal of the national forest land useage should be for multiple use of that environment within the forests?

Mr. **Greenwalt**. Absolutely, no question at all about that. That is one of our membership complaints, one of our concerns, that it is multiple use skewed toward economic exploitation.

Mr. **Schuette**. Is it your opinion that section 6(k) of the National Forest Management Act does not absolutely require a strict cash-flow accounting economic basis for management of both receipts and cost? Isn't there some play and flexibility in there as it is now written, sir, in your opinion?

Mr. **Greenwalt**. Let me quickly say that my familiarity with the details of 6(k) is fairly limited, but let me tell you what I have been informed, that 6(k) is not explicit in defining the factors considered in making the decisions about timbering suitability.

The problem we have is that the Forest Service does not use economic efficiency criteria in individual timber sales, although they do attempt to minimize the costs. The federation supports the use of economic efficiency and more stringent physical criteria in the decision as to flexibility.

I am not sure I can say with any authority whether there is, in fact, a degree of flexibility in the use of this regulatory provision. We suggest that whatever flexibility is there ought to be applied in the terms of strict—certainly strict economic efficiency, plus the consequences of which I spoke earlier that can be identified as impacts on the environment.

Mr. **Schuette**. One other question, Mr. Greenwalt. Isn't it also fair to say that given that we are trying to balance two competing goals, proper timber management and logging and having a quality of life and an environmental and recreational use that is proper for generations beyond and given those two competing goals and trying to balance them, is it not fair to say that the costs associated with trying to maintain proper environmental safeguards would increase the costs in these timber sales——

Mr. **Greenwalt**. Oh, certainly.

Mr. **Schuette**. Wouldn't that be hard to put a cost basis upon that?

Mr. **Greenwalt**. It would depend on the nature of the environmental consequences one is attempting to balance. For example, the construction of roads made in such a way—roads constructed in such a way that they reduce environmental damage are more costly and those costs can be identified. It costs more to build a road to avoid filling streams with the sediment than it does not to and those costs, I think, can be easily ascertained and there is certainly no reason why they should not be considered, and every reason they should because the costs of maintaining environment and environmental quality are perfectly legitimate ones about which everybody should understand as we go about the business of building roads.

Mr. SCHUETTE. Thank you very much, Mr. Greenwalt.

Mr. Chairman, thank you.

Mr. WHITLEY. We wish to thank all of you gentlemen for your testimony. You have been helpful to us. You have been very effective spokesmen for your organizations and we will dismiss you at this time and recognize our next panel.

Mr. KIRBY. Thank you, Mr. Chairman.

Mr. MAHONEY. Thank you, sir.

Mr. GREENWALT. Thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Brock Evans, Mr. Kaid Benfield, and Ms. Gloria Helfand will please come forward and comprise our next panel.

The Chair would reiterate that the complete statement of all witnesses will be accepted in their entirety for the record without objection, and we urge each witness to summarize his or her testimony in the interests of time.

Our first witness on this panel will be Mr. Brock Evans, the vice president of national issues of the National Audubon Society. Mr. Evans, we welcome you to the subcommittee this morning.

STATEMENT OF BROCK EVANS, VICE PRESIDENT, NATIONAL ISSUES, NATIONAL AUDUBON SOCIETY

Mr. EVANS. Thank you, Mr. Chairman. I am also a resident of the State of Washington, but I am speaking today on behalf of the more than half million members of the National Audubon Society across the country.

I want to commend you and this subcommittee for holding hearings on the subject of the Forest Service's timber sales program, particularly those parts of it which return less money to the Federal Treasury than it costs to sell.

The issues you are dealing with today are, in our opinion, critical issues indeed and since the logging and roadbuilding component of the forest program is by far its largest, their resolution will have a lot to do with what kind of National Forest System we will have well into the next century.

Many of the National Audubon Society's 500 local chapters are located near units of the National Forest System and they use them heavily for recreation and enjoyment of wildlife. As you know, the national forests are home to some of our most important and rarest species of animal and birdlife and this is very important to us.

That is really in the end why we are here today. For a number of years now, but growing in intensity with each one that passes, our national and regional headquarters have been beseiged by complaints from members of chapters that Forest Service logging and roadbuilding programs are so seriously altering and changing the character of the national forests that, if present trends continue, it will be difficult, if not impossible, to protect some threatened or endangered species and enjoy forests for the other multiple-use purposes.

This is the sad fact of present Forest Service policies, and that is why we are here today. We believe that the scope and extent of present Forest Service logging and roadbuilding programs has seriously violated not only the letter, but also the spirit of the numerous statutes that this Congress has set up to guide its management programs over the years, from the Organic Act of 1897, to the Multiple-Use Act of 1960 to the Forest Management Act of 1976.

I wish I could report to you that this is a new situation, but unfortunately, it is not. I have actively observed, commented on, and worked to change policies of the Forest Service for at least 20 years now, and statements and evidence being presented at this hearing today and earlier this year give me the strangest feeling of "I have been here before." It is true that the justifications of the Forest Service for continuance of its present programs are more sophisticated, but the results out there on the land and the protests that arise from them are just the same as they were then, or all too often worse.

For example, 20 years ago, a coalition of conservationists, sportsmen, and ranchers protested excessive roadbuilding in Montana's Bitteroot National Forest, but the agency continued to defend its practices in the name of good silviculture until a study requested by the U.S. Senate called the practices what they in fact were: timber mining. Only then did it stop.

Now today, it is the turn of the Beaverhead National Forest in the same State, a place of even more fragile soils and higher elevations and minimal timber values, where the agency nevertheless proposes to sacrifice its superlative elk hunting and famous fishing streams for the sake of subsidizing a forests product industry that provides perhaps one-half of 1 percent of the total employment in the area and where the return to the Federal Treasury are far less than what it costs to sell.

Back again in the late 1960's, similar protests by ranchers and sportsmen in Wyoming about logging and roading in prime elk habitat led to the issuance of a scathing report by a blue ribbon commission advocating of reform; and yet today, while there is some improvement, many more areas have been lost.

So we see that in place after place, forest after forest, from the White Mountain in New Hampshire to the Monongahela in West Virginia, to the San Juan in Colorado, to the Payette in Idaho, and the Siuslaw in Oregon, the pattern is the same: a pattern of degraded fisheries and ruined streams, soil erosion and damaged big game habitat, the elimination of wildlife, ruining of recreation spots and favorite vistas, all in the name of the economy, and almost all of it at a great loss to the taxpayer.

As my colleagues have already pointed out, this can hardly be called multiple use.

Others on this panel, as well as witnesses to follow, will document in specific detail the overwhelming emphasis of the Forest Service on timber production and the losses that occur, not just to multiple-use values, but also to the taxpayer. My purpose in the few remaining minutes at this hearing is simply to speak to some of the more common or recent justifications of the Forest Service now given to support the massive roadbuilding and logging program.

Some of the arguments and justifications are decades old, and we have all heard them before. Some, as I mentioned, are newer and more sophisticated. But having lived with these arguments and having seen the results on the ground for the past 20 years, I have to say that none of them have much validity for us any more.

For example, the Forest Service says that its roads are necessary to provide access in case of forest fires. Such arguments did have a marginal truth to them before the era of helicopters and smokejumpers when the forests were truly unroaded in the 1930's, but no more. Now, the national forests are laced with roads of all kinds, 342,000 miles of them, increasing at a rate 7,000 to 8,000 miles a year.

The scarce places in the forests now are those places without roads. But more importantly from the standpoint of the forest fire argument, the existence of such roads does not necessarily mean we have fewer fires or that they can be controlled more quickly. Indeed, some of the worst fires in the history of the West, such as the famous Sundance fire in northern Idaho in 1967, occurred and burned out of control for weeks in an area laced with roads of all kinds.

In the Raft River fire in my State, Washington, in 1967, the fire literally raced down the logging roads from clearcut to clearcut, jumping right over the great stands of green trees in between. The reason: Roads open up the cool moist floor canopy, permitting the material underneath to dry out. Then when the fire comes, it rages even more out of control.

The Forest Service also states that its huge road network is necessary to provide access to recreationists. Once again, there was some marginal value to this statement in the 1930's and 1940's before there were many roads in the public lands—but once again, no more. Now there is enough roads, within national forest boundaries to drive back and forth across the entire Nation 50 times, with over two more roundtrips being added each year.

New roads simply shift road-oriented types of recreation from one place to another, but do not increase it, and they certainly diminish the experience for every other type of recreationist. Especially in the steep, narrow valleys that are about all that is left of the roadless country, the logging roads were laid out right over or next to existing trails, destroying the trail experience. That is why we have experienced a one-third loss in Forest Service trail mileage since World War II, at the same time the road network has at least quintupled.

The Forest Service is also fond of claiming that timber sales, whether below cost or not, can be used to improve wildlife habitat, especially big game summer range. Once again, when the forests were largely unroaded and unlogged, some species such as elk could benefit from increased summer range which comes from browse created by logging above the winter snow line. But once again, no more: Now what is hard to find in the national forest is winter range, uncut stands of trees at lower elevations which prevent the snow cover from getting so thick that the elk or deer can't get through to eat the browse that is there.

That is why, Mr. Chairman, professionals in nearly every State fish and wildlife agency throughout the West are expressing their grave concern and alarm about Forest Service roadbuilding and logging policies; 20 years ago, before the full scope and extent of the program could be realized, there were few such concerns and protests.

Finally, and cutting across all these arguments and contentions of the Forest Service is a recurrent theme which is now a new one: That we must think of long-term management perspective and invest now for future needs. The Forest Service is not required by law to turn a profit from its timber sales or its roadbuilding programs, we are told. The timber sales program is really just one useful vehicle for achieving our whole broad management resources program.

Now, this is ironic in the extreme to those of us who have dealt with the agency for the past two decades; 20 years ago, when we would approach the agency to suggest maybe they wouldn't log a certain place, we were told: "Well, we are doing it because it makes more money for us, because the dollar value of the return from logging far outweighs any of the values like wildlife or recreation that we can't quantify anyhow."

Now, we come back two decades later with economists, speaking the language of economics, and document in detail that many of the timber sales that so damage wildlife, fisheries, and recreation values as well, also lose money. But now we are told that economics really aren't that important and we shouldn't be considering them—we're doing this to improve recreation access or to benefit the wildlife, even though we really can't quite quantify how.

Well, we reject these arguments. The plain fact of the matter is, and it is obvious to anyone who has seen the results of the logging and roadbuilding program on the ground, that the roads are built for one purpose, Mr. Chairman, to get at the timber and get the logs out. They wouldn't be built if the trees weren't there.

If the trees are big enough and accessible enough to turn a profit, they are built with purchaser credits—that is, taxpayers' timber. If they are not, the roads are built with taxpayers' money, but they are built for the trees.

We shouldn't kid ourselves about any other purpose, but we can be pardoned for rejecting all the other arguments. We should call a spade a spade and that is the sad crisis of the national forests.

Finally, we are told that all the discussion currently about sales below cost and roads below cost is somehow a smokescreen to disguise our real intent, which is to save more roadless areas. There is no question we strongly believe that many roadless areas should remain that way, but our proposals have been open and publicly stated for many years. But the sadness of the situation, Mr. Chairman, is the fact that there seems to be no alternative. Either a place is protected as wilderness by act of Congress, or it will surely be roaded and logged by the Forest Service, if it has any trees in it. If it doesn't have trees, if it has minerals, it will be left open to mining or leased for oil and gas.

We ask, is this multiple use? Is this what Congress intended in the statutes that it has passed over the entire past century? We think not. It is tragic that a once great agency, created at the turn of the century to protect the forests—and that is one of the mandates of the Organic Act—has become its enemy. It is sad and tragic that in order to justify the policies which are destroying not only the other multiple-use values of the forest, but even the productivity of much of its land to grow trees on a sustainable basis, that the Forest Service has become so defensive and retreated into ever more sophisticated justification of its bankrupt policies.

This is a sad fact, and a sad policy—but it is not irreversible. We call on this subcommittee to reaffirm once more to the Forest Service that just because an area contains trees, it is not the intent of Congress that it must, therefore, be roaded and logged. We call upon the Congress to require the Forest Service to return to its original principles and practices and become once again the kind of agency that we can all respect and, most of all, trust.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Evans appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Evans. If you will remain until the other members of the panel have completed their testimony in the event members of the subcommittee might have questions.

Our second witness on this panel is Mr. Kaid Benfield, the senior staff attorney of the National Resources Defense Council here in Washington, DC.

Mr. Benfield, we will accept your entire statement for the record and invite you to summarize it for us, please, sir.

Mr. BENFIELD. Thank you, Mr. Chairman. We are fortunate to have with us this morning Gloria Helfand, an economist who has worked on these issues now for the better part of a decade and has informed the longstanding interests of my organization in this matter.

With your permission, I would like to defer to Ms. Helfand to speak first and then following her testimony, comment on the policy implications of it.

Mr. WHITLEY. We will be delighted to hear from Ms. Helfand.

STATEMENT OF GLORIA E. HELFAND, CONSULTING ECONOMIST, NATURAL RESOURCES DEFENSE COUNCIL, INC.

Ms. HELFAND. Thank you.

I will give a brief summary of my statement and then be happy to expand on any parts of it that the members would like.

The National Forest System annually yields about 20 percent of the timber produced in the United States. As a major Federal agency with responsibilities of this magnitude, obviously the Federal timber program can have a substantial impact on the Forest Service budget, and therefore, on the Federal budget.

As the land of many uses, 190 million acres of multiple-use lands, the timber program and other uses of the national forests affect the well-being of many people in the United States. Also, as the single largest provider of a good that enters into the private market, the Forest Service can have a substantial impact on the quantities of timber from other sources, as well as the prices that other producers of timber receive.

Over the last 10 years, more than a dozen studies with which I am familiar have been performed on National Forest timber sales economics.

These studies have varied in emphasis; they have varied in approach, but they all achieve essentially the same bottom line, that a substantial number of national forests in the country, and substantial number of sites within individual national forests, are not economically productive for timber management, but are nevertheless being managed for timber production.

These studies have come from universities, from Government agencies and from private conservation organizations. I would like to mention briefly two studies with which I have been involved. My master's thesis was an expansion of an NRDC publication giving away the national forests in which we reviewed the national forest timber sales receipts and costs over a 5-year period in the mid to late 1970's.

In my thesis, I performed the analysis five different ways to check the sensitivity of the results to different methods used. By even the most conservative method of analysis in which I only compared sales preparation costs to receipts, the results showed that more than a third of the national forests did not recover their costs over the 5-year period.

In 1982, I performed a case study on the Clearwater National Forest in which I looked at timber income and expenditures over roughly 80 years, the cycle of one timber harvest, and found, as would probably be expected, that high-productivity sites could be economically productive for timber; low-productivity sites were frequently economically not productive for timber, and there were gradations in between.

These findings are consistent with many other studies that have been performed.

Thus, the essential conclusions are that probably roughly a third of the national forests in the country or more—other studies have shown much higher results—are producing timber at prices that do not recover their management costs. The Forest Service has estimated in various years that 20 to 40 percent of its volume is being produced below-cost, thus, roughly 5 to 10 percent of timber entering U.S. markets is entering at what are essentially subsidized prices.

Obviously, since this is a Federal agency, incurring losses in many of its areas has implications for the Federal deficit. Additionally, as other people have commented this morning, the overemphasis on timber management in the national forests can lead to deemphasis of other uses of the national forests to the extent that they conflict with timber management.

Finally, because timber does enter into private markets and is in competition with private timber growers, it is important to note that essentially these private timber producers are receiving unfair competition from the Federal Government. The subsidies that the Federal Government is receiving are not matched in the private sector, especially because forestry is a long-term investment requiring decades, rather than months or years, to produce a crop.

Then, especially also because the private forests as being viewed as a major source of timber in coming years, it is important to give these private timber growers the proper incentives to manage their land actively for timber. Subsidies to Federal timber at the expense of private timber do not provide these incentives.

Therefore, it is a matter that should be within the scope of public policy and should be considered by Congress.

I would be happy to amplify any of these points later. Thank you.

[The prepared statement of Ms. Helfand appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Ms. Helfand.

Mr. Benfield.

STATEMENT OF F. KAID BENFIELD, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE COUNCIL, INC.

Mr. BENFIELD. Thank you, Mr. Chairman.

What I would like to do now is make two philosophical points and then I would like to address some of the particular questions that the subcommittee put forth in its charter for the hearing.

The first philosophical point I would like to make is that what we are really talking about this morning is that there are good places to produce and sell timber and bad places. I think it is important to note that there are good and bad places within the National Forest System. There are some very good places and there are some terrible places. Unfortunately, this distinction is not appreciated by the Forest Service.

When I am talking about the terrible places, what I call the worst-case examples of sales below cost, I am talking about sales that, even if you don't count the cost of logging roads at all; even if you don't count reforestation costs at all; even if you don't count timber stand improvement and site preparation costs at all; you count only the cost of sale administration, you still have sites that are grossly unprofitable for timber production.

I hope that as this subcommittee addresses and deliberates this problem, that the worst cases will be forefront in its mind.

The second philosophical point that I would like to make is that this debate has been brewing now for over a decade. As Ms. Helfand pointed out, we have studies by academics; we have studies by units of government; we have studies by conservationists; we have criticisms by Congress, and yet, the Forest Service seems absolutely intractable in its position on this issue.

The only scintilla of a reform that I have heard from the agency in the 10 years that we have been debating this issue is that which it expressed at your hearing, February 26, in which it announced that it was considering a new minimum-bid policy that would at least set a price that would require sold timber to recover the cost of sale administration. Now the agency has backed off on even that small step which would only eliminate some of those worst cases. I think that is a shame.

I would now like to speak with respect to three of the areas of inquiry that the subcommittee put forth in its charter. Each of the subcommittee's nine questions is addressed in my written testimony and I won't go over all of those for you in the interest of time.

First I would like to address some of the arguments that are sometimes put forth in favor of the low-cost timber sales. We frequently hear, for instance, that it is the costs of environmental protection that are driving timber sales into the red, that if only we managed the national forests like corporate tree farms, that many of these sales would not be unprofitable, but would, in fact, be profitable.

We have never seen data indicating that to be the case. The data that we have seen on particular forests indicate that the costs of environmental protection add only around 3 percent to the cost of the timber sale. There is a much wider margin than 3 percent between costs and benefit in many of these sites that we are discussing.

Second, we frequently hear the argument that timber sales, and particularly below-cost sales, are needed to provide a variety of multiple-use benefits. There has been considerable discussion on that point already this morning. I hope that whatever else we get across to you in these hearings, that we can certainly make the point that at best, this issue of side benfits from timber production is the subject of great controversy and great debate and is far from generally recognized among economists, among foresters, among ecologists, and among forest users.

In fact, in the particular instances where we have examined particular claims that the Forest Service has made regarding multiple-use side benefits, we have found those benefits to be greatly exaggerated. A number of those are cited in my testimony.

What I would like to urge the subcommittee to do is examine any claims made by the proponents of below-cost timber sales that those sales benefit multiple uses, examine those claims with the greatest scrutiny and caution.

I would now like to briefly address the issue of the Forest Service's accounting system. This seems to be a topic of great interest today.

The Forest Service has testified before this subcommittee that it is undertaking refinements in its accounting system. As Mr. Kirby testified on the earlier panel, conservationists have some concern as to whether the refinements in the accounting system will be fairly placed. I share those concerns. I do think that a fair refinement of the accounting system might well be in the public interest, but the point that I would like to emphasize is that the problem of uneconomic timber sales is one of site selection; it is not one of accounting. The problem is not so much that we need to refine an accounting system, but that we need to direct the Forest Service to use the capabilities in the accounting system that it already possesses. We don't need a lot of refinement to tell the worst-case sites from the best-case sites, or even some of the sites in between that are good and bad.

As Ms. Helfand pointed out, we have at least a dozen studies which have attempted to do that already and some of them do it quite well. The accounting system may refine some of those at the margin, but for a great deal of those sales, the capability is already there.

Finally, I would like to address a legal point that has been raised by the subcommittee in its charter and in questioning this morning as to whether the National Forest Management Act, and, in particular, section 6(k), has a bearing on this issue. My organization, along with a host of other conservation organizations, many of whom are represented in the room this morning, has appealed to forest plans on the grounds that the Forest Service is not properly implementing and interpreting section 6(k) to screen from its timber production base those lands which are uneconomic for timber production.

There is controversy over just what the meaning and intent of section 6(k) is, but I am confident that whatever else section 6(k) may mean, it does mean that in some respect, the agency has to use economic criteria in selecting sites for timber production. It also means that in some respect, the agency must address the problem of below-cost sales in forest planning. Unfortunately, this is not what is occurring.

Those administrative appeals are now before the Secretary of Agriculture for a decision. We hope that the decision will be one that is in accord with congressional intent and that the matter will not have to be litigated. If the matter is litigated, I am confident that a court will find that the agency's procedures for selecting sites for timber management are not sufficiently responsive to the congressional intent.

[The prepared statement of Mr. Benfield appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you very much, Mr. Benfield, Mr. Evans, and Ms. Helfand.

Mr. Morrison, do you have any questions?

Mr. MORRISON. Thank you, Mr. Chairman.

Mr. Evans, I enjoyed your deja vu look back. Things perhaps really haven't changed over time. I am wondering if you would revisit that particular point for us. Has the Forest Service really, really changed in its policy or is it just that we are encroaching more on areas that are of vital interest to the organization you represent, or is there a shift in policy that is discernible to you and that is why your alarm is expressed at this time?

Mr. EVANS. I think that is a very good question, Congressman, and I have thought about it myself a good deal. I think the answer is in two parts. First, the policy, at least since World War II, or at least since the 1950's, has been to accelerate the rate of roading and logging throughout the National Forest System.

If one would get a chance to read the history of the agency, you can see a great shift after World War II, a philosophical shift from a custodial kind of management to what we would call saw log forest kind of management. In other words, we call it a more active kind of management. It doesn't matter about the word very much. The fact is that there was a huge increase and it wasn't just to meet the needs created by private overcutting. This was the justification given, but there was plenty of private timber, too. It was a philosophical point. Many mills were invited to be created in the national forest for that particular purpose.

The process has been going on and 20 years ago, when I first started getting involved in this, that is why I said you have the same kinds of arguments. Now, of course, they are getting into fragile and tougher country all the time because the best sites have, in fact, been roaded and logged already. As I said, the scarce things to find in the forest now are roadless areas, even scarcer to find level areas, level places where you can walk on a trail through a stand of uncut trees. That is very, very hard to find now in our State, as well as other places, too.

But the second part of the answer is that, in fact, there has been an acceleration of this trend in the last 4 or 5 years. This is the policies of Mr. Crowell; it is the policies of the present administration, and one could look at the history again and say, in the 1970's, because of the protests of the late 1960's that I documented, there were efforts by Congress to set down mandates, clearcutting guidelines, for example, and other things. Congress did speak to this in the reforms intended by the Forest Management Act of 1976 that I worked on, section 6(k), for example, and regulations were put in place in the late 1970's to implement these and they weren't bad from, I think, any environmental and economic standpoint.

All this was turned topsy-turvy in 1981 and 1982 when the new regime came into power and changed these policies, as well as many others, so there has been an acceleration. So the alarm, I would say, has always been there and that is why I tried to document the protests of two decades ago, but it has greatly increased because of so little left right now that is either economic or environmentally feasible to do this to.

Sorry for the long answer, but there really is a history behind this.

Mr. BENFIELD. If I could add—excuse me.

Mr. MORRISON. I appreciate that.

Yes.

Mr. BENFIELD. Thank you. If I could just add a brief point to that, I think another thing that is happening in our country over the past several decades is that outdoor recreation has become a lot more important as a way for people to spend their leisure time. A lot of constituents of our organizations are recreationists and, as I was listening to your question and Mr. Evans' response, a note of irony struck my mind, that if all of these multiple-use benefits to recreation and wildlife were occurring to the degree that those who favor the low-cost sales claim, you wouldn't see all the recreationists and wildlife enthusiasts lining up on the side.

Mr. MORRISON. Good point.

Ms. Helfand, in any of your economic evaluations, did you take into consideration the product—that is, the product produced for America's consumers for building purposes and so forth. I know it has a cash value out there and that is one of the elements, I suppose, of sales that don't return enough to cover their costs. But isn't there also a value that relates to having the product available in great quantity within the American marketplace?

Ms. HELFAND. There certainly is. Do you mean having it supplied publicly as opposed to privately?

Mr. MORRISON. Have it supplied from a variety of sources so the consumer gets a good buy. One of the great goals that I think we have set as a nation is every American owning his own home, that sort of an approach. Is that a factor at all in your considerations?

Ms. **Helfand**. I have looked into that matter. There are several parts of that question. On the first issue of having timber come from various sources, of course, there should be competition in the marketplace. The question is—to some extent, it comes down to a philosophical question of who should be the major provider of timber in this country. The largest single provider is the National Forest System, although other sources overwhelm the national forests in terms of production.

However, because the national forests do have such a substantial volume, they can affect market prices and market quantities from other sources. Because some of the national forest timber sales are subsidized, other producers do not receive a comparable subsidy. Therefore, there is a disincentive, as I noted before, for private timber production. To the extent that it affects housing prices or lumber prices, the price of raw wood in a house is, I believe, on the order of 2 to 4 percent. I am not sure of exact figures, but it is certainly less than 5 percent.

As a result, the possible effects on housing prices from changing national forest timber sales policies are minimal at best.

Does this address your question? Is it an adequate answer?

Mr. **Morrison**. Yes, thank you, and I appreciate the extent to which you have analyzed that particular factor.

Thank you, Mr. Chairman.

Mr. **Whitley**. Mr. Huckaby.

Mr. **Huckaby**. Thank you, Mr. Chairman.

I understand that the Forest Service sells aspin timber out in Colorado for around $5 a thousand. Do you all have any information on this? Have you looked at the economics or the profitability of this?

Mr. **Benfield**. The conservation organizations in Colorado have been quite upset about the aspin selling programs, as has the State government out there, and I think on the next panel you have a witness from Colorado who could speak to that, perhaps, with a bit more knowledge than I.

My understanding of the position of those who live in Colorado is that aside from the economic injury, we have an environmental insult in the case of the aspin program where we are clearcutting thousands of acres for very little appreciable public benefit. The cost and benefits are such that they would fall into those worst cases that I was citing at the beginning of my testimony. There is a wide margin between the $4 or $5 that the public receives for the aspin and the cost—I don't have in my head what those costs are, but I know that they are considerably higher than that in terms of production costs.

Mr. **Huckaby**. I wonder if we changed the way we did business and made each forest a profit center, and said *x* percent of the gross receipts would have to be set aside for wildlife and recreation opportunities, these types of things, if this might possibly make the Forest Service a little bit more business-conscious as far as building the additional roads which all the testimony we have heard today seems to indicate that——

Mr. **Benfield**. It might help in some parts of the country where it makes sense to log and there is enough gross receipts to go around and other parts of the country and on other sites, the best thing you can do for the wildlife and recreation is leave the forest alone, rather than log it and then take some of the proceeds from the logging to apply to the conservation benefits.

I think it comes down to a site-specific analysis. In some places, it makes sense to do what you propose, and in other places, I think the thing that makes the most sense is to not log at all.

Mr. HUCKABY. Thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Olin.

Mr. OLIN. Thank you, Mr. Chairman.

I wanted to ask Mr. Evans a couple of questions and I apologize for not being here at the beginning of your testimony. My first question is really to ask you whether I had detected—or got your main point right with regard to the question of timbering. It sounded, as you were talking about it, that you felt that timbering in the forest was not appropriate at all and that it wasn't really called for in section 6(k), although if you read section 6(k), it certainly seems to contemplate the timber in the forest and the identification of that portion of the forest which is suitable for timbering and that portion that is not suitable for timbering. It certainly seems to make the presumption that there will be timbering in the forest, but it doesn't say to what degree.

Could you summarize your viewpoint with regard to the fact of timbering in the national forests?

Mr. EVANS. The fact of cutting the trees at all, right?

Mr. OLIN. Cutting trees down and use them, yes.

Mr. EVANS. Right; I appreciate the question.

No, it was never my intention to say that there shouldn't be any logging or roadbuilding in the national forests at all. That is clearly one of the multiple uses that Congress has spoken to over the years. I think the thrust of my testimony, and really that of my colleagues and all the organizations we speak for, it has gotten way out of hand. It has been vastly overblown. The multiple uses are supposed to be balanced one with the other.

In fact, logging and roadbuilding has overwhelmed all other portions of Forest Service budget, also its attention, and it has overwhelmed all the other actual results out there on the ground. That is what I was speaking to. Yes, there should be some timber cutting. I don't think there should be anywhere near as much logging as there is right now. As my colleague just said right here, lots of times you can have more benefit to wildlife and recreation by not cutting at all. You improve the wildlife relief by protecting it, by leaving it there, than doing this.

I think the rate should be cut down. We are cutting too much right now with far too little dollar return and far too much damage, but we can still cut.

Mr. OLIN. You are really saying, then, that we are already cutting enough—in fact, we are cutting too much. We should back off a little bit. I guess that is about what you are saying.

You are saying also that other uses have deteriorated because of the degree of timbering.

Mr. EVANS. That is right.

Mr. OLIN. I am coming at this thing from the point of view of the eastern forests in Virginia, and of course, that situation—every forest situation is somewhat unique—but these lands were, at the turn of the century or sometime around there, all cut over for lumber or for charcoal or something else. The forests, since that time, have been growing up and they are now getting to be 70 to 80 years old or so. The trees are getting older.

It seems quite natural to me that the timbering aspects would be changing in that situation. There certainly wasn't any timbering at all at the beginning, or not much, because most of the forest had been cut down and the emphasis was on letting it grow back.

Now we are coming to the point where the forest is becoming more mature. In the next 50 years, a lot of it will literally mature and trees will naturally die. In that sense, I am not sure that you have really substantiated your point that we are going too far and that other uses of the forest, the multiple uses, have deteriorated with the growth in timbering that has taken place.

Mr. **Evans**. Once again, I am glad you raised this because, as others have already said, the problem we are articulating today is not just a western matter, although some of us are westerners. It is an eastern question and concern for the eastern forests as well.

In your own State, the George Washington Forest already does have a fair amount of timbering and roadbuilding, as you know, going on. You have seen the new plans which call for about a tripling of the timber cutting, and about a quadrupling of the roading, and the protestors are just as vehement and just as concerned from Virginia as they are, say, in my State of Washington or elsewhere for the same reasons.

In the last 50 years or so since those forests were originally cut, recreation demands have been the new factor on the scene. They have greatly accelerated as the public forests become just about the only places we can go.

I myself had a lovely weekend with my two boys camping out in Ramsey's Draft, as a matter of fact, one of my favorite places over there, and many of us from all over use that forest for recreation values. Others have documented that to continue the timber-cutting program on the George Washington Forest in Virginia will lose hundreds of millions of dollars to the Treasury over a period of time because it is not economical there either. So the problem is both East and West and I would say that my comments apply to Virginia national forests, to West Virginia, as much as they do any in the West.

Mr. **Olin**. Would you say, then, if a better economic commitment were made by the Forest Service as to what was a good economic deal, that that would be the proper way to attack this problem of deciding how much?

Mr. **Evans**. I think that is a beginning point for analysis and that is how we read section 6(k). I worked on section 6(k) 10 years ago when we passed the law. The aim was to require the Forest Service to say: "Look, some lands are clearly marginal, clearly don't get a return in addition to damaging the environment. At least take a look at this first." The statute permits them to still go ahead, but identify clearly, and they aren't doing that in the East or the West.

Mr. **Olin**. If I could have just a bit more time, Mr. Chairman, I want to make one other observation. I have worked very diligently on this subject since becoming a Congressman because I have a lot of forests in my district, most of the George Washington and part of the Jefferson. My impression has been that contrary to what has been indicated here today with regard to Forest Service attitude, that they are not cast in concrete; that they are not totally unresponsive.

I have been told that as they issue their final versions of the plans for these two forests, that they will include in the plans a much better and more comprehensive description of their management practices and the criteria that they will use with regard to roadbuilding, clearcutting, other types of timbering, and the balance between the timber activities and the other very desirable uses of the forest.

I wouldn't—if your conclusion has been to give up on the Forest Service, I think it might be——

Mr. EVANS. Premature.

Mr. OLIN. That might be premature.

Mr. EVANS. Can I just finish the comment here? I hope that is the case. We welcome the fact that the Forest Service has responded to the protest and withdrawn their original plan. Isn't it sad, though, that they proposed it in the first place?

I think a more sensitive agency would have tried to balance this in the very beginning and let's wait and see. I am not giving up on them, but 20 years of experience has made me really concerned.

Mr. OLIN. Right.

Thank you.

Mr. BENFIELD. Mr. Olin, I have burned a lot of midnight oil pouring over those planning documents that the Forest Service put out for the George Washington Forest and from—I described them to my board of trustees as an environmentalist's nightmare. They were a literal nightmare for me.

Perhaps I don't share the same degree of optimism as you, but I hope that the final plan is vastly improved over that.

I think that there are a couple of brief points to make about eastern national forests and their special character and why there is perhaps even more reason to be cautious about timber management in the East than there is in the West.

No. 1, we have an overwhelming majority of timber land in the East that is privately owned and a fairly healthy private timber industry in the East. There are ample supplies for the markets from private sources and we have private sources who are vulnerable to unfair competition.

Second, we have a real scarcity of public wildlands, matched up against very high populations. George Washington Forest is within 1 day's drive of 54 million people, yet it is only 1 million acres of land. That is very different with the situation in the West, and I think all the more reason to be cautious.

Mr. OLIN. Thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Schuette.

Mr. SCHUETTE. Thank you, Mr. Chairman.

Mr. Benfield, am I correct in hearing that you said the environmental costs associated with a timber sales project is 3 percent?

Mr. BENFIELD. That was based on a comparison of Forest Service analyses in the Allegheny National Forest in Pennsylvania and I have not seen any good data to contradict that.

Mr. **Schuette**. That was site specific in one forest? Do you have a gut feeling or intuitive feeling in terms of on a national basis, what they might be?

Mr. **Benfield**. My gut and intuitive feeling is that the instance in that forest is representative. I don't have the numbers to back that up with, but on the other hand, I haven't seen numbers to contradict it.

Mr. **Schuette**. You mention on page 9 of your statement, Mr. Benfield, concerning 6(k) of the legislative history clearly, in your words, states that it is not a section within the National Forest Management Act that is fuzzy in its clarity.

Would you be able to provide me with the legislative history and backup on that, please?

Mr. **Benfield**. I have written a great deal on that subject and would be happy to submit——

Mr. **Schuette**. Please do. I say this as—I am an attorney by background and so I would very interested in seeing——

Mr. **Benfield**. My feeling is that although there are elements in the legislative history of section 6(k) which are murky and fuzzy, that the thread of clarity which runs through those fuzzy and murky elements is that the Forest Service was required to address the problem of below-cost sales in some fashion in forest planning, and that the Forest Service was required to use economic criteria in some manner to screen out poor sites for timber production.

Mr. **Schuette**. When I read 6(k), to me it leaves some room for different interpretations, so why don't you, if you wouldn't mind, provide me with some written material. As I walk through that murky field, I would be interested in your interpretations.

Would you agree, Mr. Benfield, that a goal and a purpose of the national forest management policy would be for multiple use of those lands?

Mr. **Benfield**. I don't think any of us disagree with that goal. We have a lot of disagreement over whether the Forest Service is properly interpreting that goal.

Mr. **Schuette**. But you would agree with that goal on intent, would you not?

Mr. **Benfield**. Of course.

Mr. **Schuette**. On page 18 in your conclusions, you provided four or five separate points of summary that you think should be included within a new national forest policy; that in assessing various economic factors, you said: "We should not consider multiple-use benefits." Why do you take that specific view, given your goal and intent that forest lands should be used for multiple use?

Mr. **Benfield**. I think you read the first, but not the second sentence of my paragraph—misread—where I said that we should not consider multiple-use benefits at that stage. I think that the proper procedure for the Forest Service to follow in examining economics because the economics of timber, per se, are more easily ascertained than the economics of multiple use.

Mr. **Schuette**. When would you assess the multiple use?

Mr. **Benfield**. After one has assessed the hard numbers associated with timber, per se.

Mr. **Schuette**. Now, that was not included within your five steps, is that——

Mr. **Benfield**. It was No. 4, I believe, where I said that even lands declared unsuited under economic criteria, it could still be harvested as exceptions for multiple-use purposes.

Mr. **Schuette**. But in your first cut analysis, you are not assessing a multiple-use benefit at that point in time?

Mr. **Benfield**. It is a five-step process.

Mr. **Schuette**. Thank you, Mr. Benfield.

Mr. Chairman, thank you.

Mr. **Whitley**. Thank you and I want to thank the members of this panel for enlightening testimony and we will excuse you and call our next panel.

Mr. Jerry Jayne, Mr. Rocky Smith, Mr. Andy Stahl, and Mr. Phil Hocker.

The Chair would reiterate that in the interest of time, we will receive your full written statement for the record; it will be included in its entirety in the record, and in order that we might reach all the witnesses we have scheduled, we ask you to please summarize your oral testimony for us in a brief period, not to exceed 10 minutes, and we will first recognize Mr. Jerry Jayne, who is a computer programmer from Idaho Falls, ID.

Mr. Jayne, we are happy to have you with us, sir.

STATEMENT OF JERRY JAYNE, BOARD MEMBER, IDAHO ENVIRONMENTAL COUNCIL

Mr. **Jayne**. Thank you, Mr. Chairman, members of the subcommittee.

My name is Jerry Jayne and I live in Idaho Falls, ID. I am presenting a statement on behalf of the Idaho Environmental Council, of which I have been a board member for many years. As an individual conservationist, I have been working with and on the Forest Service for almost 20 years.

Numerous reports and studies have documented the prevalence of below-cost timber sales. One of the more recent of these that I found interesting was the GAO report of last June which showed that in region 1, which is northern Idaho and Montana, the net loss in the timber sales program was $28.6 million and 60 percent of all of the sales were below cost.

In region 4, which includes southern Idaho, Nevada, Utah, and western Wyoming, the net loss in the timber program for both years was $23.8 million and 93 percent of the sales were below cost.

I extracted the figures from that document for Idaho alone for the 10 national forests there. For those 2 years, there were 115 sales showing a gain of about $10 million, and there were 204 sales showing a loss of over $35 million, or a net loss of over $25 million.

One of the forests with which I am the most intimately familiar is the Targhee National Forest in eastern Idaho. It is most certainly a below-cost timber forest. I have been watching a number of timber sales there for years. I selected 17 which are of interest. I am not sure if they are representative or not, but I suspect they are. They were sold during the past 4 years.

I looked at the economics, just a very simple first-cut calculation shows that if you just include the preparation and administration costs of the timber sales and the roadbuilding and exclude all other costs, that all but 3 or 4 of those 17 sales are below cost. Some of them don't even cover the costs of the preparation administration alone, even ignoring the roadbuilding costs.

The net loss for all those sales was something over $1.3 million and these are fairly small sales by comparison with some of the sales further west.

I mentioned the skewed bidding issue here. I just threw it in because I know it is another issue, but it relates to below-cost sales. You probably grappled with this problem before but it tends to make the dollar benefits look even better than they are. On the one sale that I looked at, it could have made the difference between the Government actually getting $91,000, which was bid, or as little as $3,000 in reality. It will be somewhere in between there, depending on how much of the lodgepole pine dies before it is cut by the purchaser who now is in extension and can wait for the beetles to kill the trees. Then he can pay $1 a thousand instead of $6 a thousand.

Many of the below-cost sales do damage resources, as you have heard. There may be legitimate reasons for the existence of some of these sales and we are not objecting to all of them just because they lose money, but we do object to the sales that both lose money and create conflicts with multiple uses and the management of those values, wildlife, recreation, watershed protection, roadless retention, and so on.

I have thrown in a couple of examples of particularly bad, below-cost sales in Idaho: one on the Salmon Forest, one on the Nez Perce. In the interest of time, I will skip those and leave them in the record.

I want to talk a little bit about the roadbuilding mania which the Forest Service is engaged in. I have read a good many land-use plans and timber sale prospectuses, environmental assessments and so on in the last several years and I am appalled as to what is happening on our national forests in Idaho and elsewhere. These roads, as you have heard, are unwise for two reasons: One, they frequently damage wildlife habitat, and other multiple uses; and two, of course, they spawn a lot of the low-cost timber sales.

Contrary to the Forest Service's nonsense about these roads improving wildlife habitat and water quality and so on, they do just the opposite and more often than not, they damage those values.

They also—the policy which the Forest Service is engaged in in logging and building so many roads—create conflicts in another sense, too, and that is the one between timber and wilderness. In 1978, Thomas Power, who was an associate professor at the University of Montana economics department, did a brief economic analysis at the request of the Montana Wilderness Coaliation relative to RARE II and what he says about logging the Montana roadless areas could very well and probably does apply to Idaho and, in fact, most of three Rocky Mountain regions at least.

He says:

> In allocating lands and funds to timber management, the Forest Service ignores the most fundamental economic principles. It does not consider the costs or economic benefits associated with different types of forests or sites. The Forest Service seeks to bring all of the national forest under management, subject only to the constraint that the site be able to support trees and that the basic land base not be

permanently damaged. It ignores the costs of management and then prices the commodity in such a way that the timber industry and wood product users are also encouraged to ignore the costs of management. The results of this approach are that the Forest Service seeks roaded access to almost all timber stands and so does the timber industry.

If in allocating its forest management budgets and forested lands, the Forest Service took into account the costs of management as well as the value of the commodity flows, it would never enter most of the remaining roadless areas in Montana, but would instead concentrate its efforts on the more productive already roaded areas. If the timber industry had to pay stumpage prices which reflected the full costs to the Forest Service of managing the sites for timber instead of a price which guarantees a "normal profit," they would not be interested in further sales in most of the remaining roadless areas.

Apparently, the only type of management which the Forest Service sees as "real" management is roaded development for timber, whatever the cost and however marginal the timber returns. It is this economically irrational compulsion to develop almost all areas and sell the timber at below the cost of production that unnecessarily creates the timber-wilderness conflict. No such conflict need exist if economically productive timber lands were focused upon.

In Idaho, the Forest Service is posing roadbuilding and logging which are absolutely alarming. Three of the worst forests for whom the draft plan has come out is in northern Idaho in region 1, Clearwater, Nez Perce, and Panhandle. Altogether, those three forests are proposing to build over 16,000 miles of new road over the next 45 years, which is more than double their current road mileage. It will be a cost of over $1 billion, most of which will be paid for by the taxpayers because the timber is poor in most of these forests.

The draft forest plans for those three forests proposes the roading of over 1 million acres of Idaho's finest elk country. These plans represent what one observer, one researcher has called probably the greatest assault on elk habitat in Idaho's history, and I imagine the Fish and Game Department from Idaho will give you more details on that this afternoon.

Idaho is no isolated example of the Forest Service's roadbuilding mania, which has, I think, become a national scandal. A review of the RPA draft programs for the last few times, the one for 1975 said there were 220,000 miles of roads on our national forests nationwide. Just 10 years later, in the 1985 draft RPA plan, it was up to 330 and now it is apparently 342, from the current figures for the current fiscal year.

This means a 50-percent increase in road construction on our national forests in 10 years, and what is even more disturbing is that the Forest Service proposes to maintain and perpetuate this mad rate of roadbuilding well into the future. The draft 1985 RPA plan projects roughly 10,000 miles of new national forest road annually, clear out to the year 2030. Even though they evaluate nine different alternatives in that RPA draft, one has a very poor choice from amongst them if he is concerned about roadbuilding and its impact on wildlife habitat because none of the alternatives goes below 6,500 miles a year.

It is thus imperative that Congress do something to stop the Forest Service's roadbuilding and timber harvest juggernaut. The Forest Service will cheerfully continue spending all the money they can get you to appropriate, most of it for roads and timber sales.

We have some recommendations for your consideration. One is to eliminate most of the Forest Service's capital investment funding because it is going mostly for roadbuilding and most of these roads are destructive. Two, instruct the Forest Service to obey the law, and in particular, section 6(k) of the NFMA, which does require some sort of economic criteria for the stratification of timber land for its suitability or nonsuitability. Three, require the Forest Service to do a more useful and honest economic analysis. The problem I have with the plans are that they show a present net value based on a present value benefit minus present value cost. What they don't break down is cost versus benefits to the Government. Most of the costs are to the Government; most of the benefits are to scattered segments of society. What they need—if you have a present net value based on that, it doesn't tell you how economically efficient it is. What you need are, I think, two levels of economic analysis. One would just break out the dollar benefit versus the dollar cost to the Government. That should be your first criterion.

The second, you can consider—second level of analysis would consider all the dollar benefits and all the dollar costs. The Forest Service should be instructed to include all of the dollar costs. They have been negligent to do that. They don't consider damaged habitat, damaged fisheries and loss of jobs related to outfitting and guiding, hunting and fishing, and so on.

The Forest Service should use a realistic discount rate. Four percent just makes high-development alternatives look better than they really are.

I thank you.

[The prepared statement of Mr. Jayne appears at the conclusion of the hearing.]

Mr. **Whitley**. Our next witness is Mr. Rocky Smith. That is a good nickname for a gentleman from the Rocky Mountains in Denver, CO. We will be glad to hear from you, Mr. Smith.

STATEMENT OF ROCKY SMITH, REPRESENTING COLORADO MOUNTAIN CLUB AND COLORADO OPEN SPACE COUNCIL

Mr. **Smith**. Thank you, Mr. Chairman.

I am Rocky Smith and I am representing two Colorado organizations. One is the Colorado Mountain Club, which is a recreation and conservation organization of more than 8,000 people in 12 Colorado cities and towns throughout the State, and the other is the Colorado Open Space Council, which is Colorado's statewide environmental coalition consisting of approximately 25 groups and about 1,200 individuals for a combined membership of more than 30,000 people in all parts of the State.

Members of these two groups, as well as many other Coloradans and people who visit our fine State for our beautiful scenery are very concerned about the below-cost timber sales, not only for the money that these sales lose to the Treasury, which is considerable, but also that these sales harm or destroy many esthetic values which make Colorado a desirable place to visit.

I am going to spend most of the rest of my time this morning talking about one particular example. I would like to emphasize, however, that this example is not at all atypical of Colorado. It just happens to be a very good one, one that many people are concerned about. This concerns an area that is aptly Troublesome. It is also called Arapaho Creek. It lies in the north-central part of the State, near the town of Kremmling and contains approximately 87,000 acres.

A small part of it lies on the adjacent Arapaho National Forest, but it is mostly administered by the Routt National Forest.

At present, this area is extensively used for hunting, fishing, hiking, cross-country skiing and other forms of nonmotorized recreation. It is a favorite area for these and other activities for many of the local people in the area and for people far away from Denver, which is a considerable drive of about 3 hours, a lot more in the winter.

Private ranches border the area in many places, but public access is quite adequate for reaching most of the area, if you are willing to hike or ski to it, and hence, it is a very desirable place for many people to visit.

In the draft land management plan for the Routt National Forest released in November 1982, the Forest Service proposed to build roads and cut timber in three different places in Troublesome; in total, about 21 miles of roads would be built and 26 million board feet of timber would be cut. There is little doubt that these three sales will lose money for the Treasury. Analysis by people familiar with the area, using the Forest Service's own figures, has shown that these three sales will lose a total of approximately $600,000.

In general, the propensity of Colorado's national forests and other national forests, but particularly in Colorado, to lose money in timber sales has been well documented. I refer you specifically to GAO Report 84-96 and to the Wilderness Society's "Below-Cost Timber Sales on the National Forests." You can certainly tell from reading those two documents that this is not an isolated instance; that in general, timber sales on all national forests in Colorado lose a great deal of money.

The Forest Service even admits this. This admission is found in every land management plan that the Forest Service has put out. The Forest Service proposals for the Troublesome or Arapaho Creek area have generated a great deal of controversy. Many people wrote letters to the Forest Service to express their opposition to the proposed timber harvesting in the area. Many also expressed opposition to the emphasis on logging in the draft Routt Forest plan, but despite the intense opposition, the Forest Service did not change its proposals for either the Troublesome area or the Routt National Forest in general in preparing the final land management plan, which was released to the public in November 1983, 1 year after the draft.

The proposals which remained in the final plan continue to generate a great deal of controversy. Many people have written to elected officials or also to Forest Service personnel to protest the proposals. Many area residents, including the Grand County commissioners, the Kremmling town council, all of these people have voiced opposition in the final Routt plan and the proposals for Troublesome, in particular, have been appealed administratively to the Chief of the Forest Service by six groups. The Colorado Open Space Council is one of those groups.

This appeal has been before the Chief of the Forest Service for more than 1 year but there has been no decision. We asked for and were granted a stay of decision pending appeal. In other words, the Forest Service agreed not to start implementing these sales while the appeal was being considered. However, I am submitting for the record as part of my testimony a letter from the district ranger in Kremmling that details the preparation of activities. It appears that the Forest Service is going to go ahead with these sales anyway because they continue to spend money on preparation, as the letter from Mr. Roger Corner demonstrates.

I would like to add that the money that is spent for these and other timber sales in preparation and in implementation means that there is that much less money available from the Federal budget for recreation, for trails, and things of that nature which are badly needed in Colorado's national forests.

There is little question that the road construction and logging, if they are carried out into the Troublesome area, will make this area less valuable than it is now for nonmotorized recreation. The presence of motor vehicles will make the area a less desirable place to visit for those seeking quiet solitude. The timber cuts are likely to be unsightly, noise from the bulldozers and chainsaws will scare away deer and elk, and erosion from the timber cuts may find its way into the streams and damage the valuable fisheries in the area.

Many people choose to live in Colorado for the values that are presently found in the Troublesome area, the very values that will be damaged if the Forest Service proposals are implemented.

As the population continues to grow, large primitive areas like Troublesome will be even more highly demanded. The Forest Service's "Rocky Mountain Regional Guide" for region 2 predicts an annual increase in the demand for wilderness recreation of 6 to 7 percent. A study by the Colorado Mountain Club found that all forms of recreation, of which nonmotorized recreation is a significant part, contributed over $1 billion to the economy of the State of Colorado in 1983.

Is the wood fiber that could be harvested from Troublesome needed so badly that we should sacrifice all the other values of this beautiful area? I really don't think it is. At present, there are at least 70 million board feet of timber under contract on the Routt National Forest, but uncut. In other words, these are sales that have been bid on, but because the market is so glutted right now, the timber contractor, whoever bought the sale, has chosen not to cut them yet.

On the adjacent Arapaho National Forest, there are 36 million board feet uncut, but under contract. This clearly indicates that there is plenty of timber around and we don't need the timber that could come from the Troublesome area. Indeed, the Troublesome area appears to be much more valuable for the activities that are taking place there now.

The road and timber proposals for Troublesome, if implemented, would have one other very unfortunate result. It would destroy a ranch run by an elderly woman who is dependent on income from this ranch for her survival. I submit for the record a letter from Ms. June Swanson detailing her concerns.

Again, I wish to emphasize that what is proposed for Troublesome is not at all an unusual situation for the State of Colorado.

During public participation associated with development of the Forest Service land management plans, all seven of them, and the subsequent appeals, also all seven of them, a large number of people have expressed an opinion. The great majority of these people have opposed the Forest Service's plans for increasing logging in Colorado.

Many, including the Colorado Department of Natural Resources, have asked the Forest Service to plan for recreation first, citing the fact that all forms of recreation constitute by far the biggest and most important use of Colorado's national forests, as shown by Troublesome. But these public protests appear to have fallen on deaf ears.

The Forest Service continues to press harder than ever to implement its increased logging and roadbuilding proposals and almost all of these sales will not recover the Forest Service's costs. Most of them will not even come close to doing so. That is why I am here before you today, to ask that you direct the Forest Service to stop the practice of below-cost logging.

You should require all Forest Service timber sales to at least recover the Government's costs, including all road construction, unless it can be conclusively proven on a site-specific basis that below-cost logging must be done to protect other forest resources.

I appreciate this opportunity to testify before you.

[The prepared statement of Mr. Smith appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Smith.

I think we might deduce from your testimony that the Troublesome area is most appropriately named.

Mr. SMITH. Yes; definitely.

Mr. WHITLEY. Our next witness will be Mr. Phil Hocker, of Wilson, WY. We will be glad to hear from you, Mr. Hocker.

Mr. HOCKER. Mr. Chairman, I would be happy to yield to Mr. Stahl.

Mr. WHITLEY. Very good, sir.

Mr. Andy Stahl, a forester with the National Wildlife Federation, Pacific Northwest Resource Center, Portland, OR.

Mr. Stahl, we will be glad to hear from you, sir.

STATEMENT OF ANDY STAHL, STAFF FORESTER, NATIONAL WILDLIFE FEDERATION

Mr. STAHL. Thank you, Mr. Chairman.

My professional background, in addition, includes positions as a forest policy analyst for associated Oregon loggers and as a forest planning consultant to the U.S. Forest Service.

I am going to focus today on economic techniques commonly used by economists to evaluate the prudence of investments in timber management on public lands. I contrast the relative advantages of cash-flow analysis, about which we have heard a lot today, and another kind of analysis called economic efficiency analysis. In addition, I am going to discuss the consequences of failing to use proper economic efficiency analysis on a particular timber sale.

In conclusion, I will cover the adverse public policy consequences of standard Forest Service justifications for economically inefficient timber management investments.

Cash-flow analysis compares the yearly receipts from timber sales on a national forest or ranger district or a whole region with the yearly cost of timber management in that area. This technique indicates that many national forests chronically spend more on timber management annually than is returned in receipts to the Government.

The results from cash-flow analysis have been used to criticize Forest Service investment decisions in timber management on lands of relatively low productivity. Insofar as it goes, cash-flow analysis provides a good first impression of where poor investment decisions are being made.

Cash-flow analysis is not adequate for identifying which particular areas of forest land are unprofitable for timber management, nor does it adequately account for the long-term nature of most timber management investment decisions.

Congress is properly concerned with the results of cash-flow analysis, for they are an indication of annual net revenues to the Treasury. However, an overemphasis on cash-flow analysis could have three adverse consequences. The first of those is that investments in timber management which do not make an immediate cash return, but are profitable over a longer timeframe could be overlooked; two, there may be an incentive for the Forest Service to overzealously reduce management costs potentially at the expense of meeting established environmental protection objectives.

Third, the land base suitable for sustained yield timber management may be overestimated. We may be managing land which is not suitable on a sustained yield basis because cash-flow analysis improperly considers the cost of reforestation as a cost of harvesting the existing stand and an investment in growing a future stand of trees.

These shortcomings of using cash-flow analysis can be avoided entirely by using proper economic efficiency analysis in evaluating timber management investments. Economic efficiency analysis evaluates the return on investments made in timber management on particular acres of forest land over the long run.

Economic efficiency analysis compares the discounted revenue stream from timber receipts to the discounted cost of access, sale preparation and administration, and investments in growing future stands of timber. Since the costs and revenues far into the future are discounted, the analysis need only look ahead about 50 years in order to provide meaningful results.

Now, I am going to look at a specific case where use of this kind of analysis could have saved the Government a substantial amount of money. The case I will look at is Tolan Creek timber sale area on the Bitterroot National Forest in Montana. This is a 9,400-acre area which today is predominantly unroaded.

A land-use plan prepared in 1975 allocated part of the area to intensive timber management, but at that time, no economic analysis was performed justifying this decision. An attempt was made in 1976 to sell timber from the area, but no purchaser was found to buy the sale.

In 1977, the Forest Service used congressionally appropriated funds to build a 10-mile road into the area. Again, no economic analysis at that time was performed justifying the expenditure of those funds.

In 1987, the Forest Service proposes to sell the first of four sales extending through the year 2067. The Forest Service itself has performed an economic efficiency analysis of the stream of costs and revenues through to that timeframe. This analysis, though, considers the expense of the 10-mile appropriated road paid by Congress to be sunk cost and is, therefore, not included.

In spite of this failure to account for the federally financed road, the total present net value of the investments, according to the Forest Service's own analysis, is a negative $24,000. This indicates that had the Forest Service used an economic efficiency analysis in their original decision in 1975 to allocate this area to intensive timber management, they would have seen the imprudence of that decision.

As things stand today, $300,000 were expended on congressionally appropriated roads which accesses timber of negative net value.

The Forest Service generally supports these unprofitable investments with six arguments. I will just go through very briefly and give a rebuttal.

The first argument is that roads are used not only to assess current sales, but future sales as well. That is quite true, but the future sales may not be worth enough to pay for the cost of the road, as is the case in Tolan Creek and many other investment decisions that I have analyzed.

Argument two: Roads built to access timber are also used by recreationists, and therefore, the recreation values produced help to justify road costs. We have heard a lot of testimony on that today. Just very briefly, today there is a general oversupply of roads for recreationists desiring those kinds of experiences. A benefit only has value if it is in demand. Second, often as not, new Forest Service roads are gated and closed, as in the case of the Tolan Creek road, in order to protect elk and other wildlife species from poaching and harassment. Well, if they are gated and closed, then you can't take any recreational benefit from them because nobody can use them.

Forest Service argument three: The roads also help to reduce the cost of fire protection. Well, most destructive fires are associated with timber management, such as slash burns, logging-caused fires, and the increased access associated with logging roads. In addition, prescribed burning is often a less environmentally damaging and more cost-effective alternative than timber management to reducing the risks of fire.

Forest Service argument four: Openings created through timber management create forage for big game, which provides additional recreation values. This is a very site-specific argument which has to be evaluated in the context of the particular big game population, the condition of its home range area, and the neighboring planned management activities. For example, if there are already adequate openings, but cover for hiding or security is a limiting factor, additional openings are not going to provide any benefit. Again, in Tolan Creek, in Montana, the regional wildlife manager for the State Department of fish, wildlife and parks stated that "To me, Tolan Creek is more valuable as elk security range than for timber management."

Forest Service argument five: is that harvesting of timber helps to reduce insect and disease problems, which in turn reduces the risk of fire. This is very much a corollary to their previous argument regarding fire danger.

Again, controlled burning is often a more cost-effective way of reducing insect and disease problems. In addition, if the timber itself has negative economic value, its loss due to insect and disease will be at no cost.

Forest Service argument six: is that the jobs and income created by timber management at a loss help provide local community stability. The National Wildlife Federation is not insensitive to the needs of the local communities, but retaining an industry which has high financial and environmental costs is probably not the most efficient way to provide either timber or jobs.

I might add that anybody familiar with a small community dependent on the timber industry knows that it is one of the most unstable communities you are likely to find. The timber industry is highly volatile and fluctuates to a considerable degree.

In the Tolan Creek area, less than 5 percent of the jobs in that local area are timber-related, and those timber jobs are fairly expensive for the Government to maintain. A review of the forest plans in the local area indicate that each job costs about $10,000 per year of Federal subsidy, while recreation jobs in the area—recreation provides many more jobs—cost only about $500 per job to the Federal Government, and much of that subsidy could be recovered if recreation fees are set at a fair market value which the Wildlife Federation supports.

Job retraining grants would be a more economically and environmentally sound way of providing for stable local industries not perpetually dependent on these Federal subsidies.

The Forest Service has staff economists who are capable of performing these analyses, and used properly, economic efficiency analyses are useful tools in decisionmaking and can help make environmentally and economically sound timber management decisions.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Stahl appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Stahl.

We will hear now from Mr. Phil Hocker, Wilson, WY.

STATEMENT OF PHILIP M. HOCKER, ARCHITECT, MEMBER, BOARD OF DIRECTORS, NATIONAL TREASURER, SIERRA CLUB

Mr. HOCKER. Thank you, Mr. Chairman.

Mr. Chairman, my name is Philip Hocker; I am an architect practicing in Jackson Hole, WY. I have been closely involved with national forest management issues in the greater Yellowstone region since 1972 and I would add that I have received the Department of Agriculture Certificate of Merit from the Forest Service for my cooperative work with them.

I am a member of the board of directors of the Sierra Club and serve as its national treasurer. I would like to invite the subcommittee to come to Jackson Hole to look at some of these problems in person. I think you would find it a very instructive trip and a pleasant one this summer and it would also be helpful to our local recreation industry——[laughter].

Mr. WHITLEY. Sounds good.

Mr. HOCKER [continuing]. Which is a much greater contributor to our economy than the local timber industry. So the invitation is extended.

The Bridger-Teton National Forest, which I will refer to as the B–T, includes the lands along the south boundary of Yellowstone National Park, and east and south of Jackson Hole. It is not a very productive area for timber. The predominant species is lodgepole pine, with additions of spruce and fir.

Up to the early 1960's, there was relatively little timber harvest on the B–T; its dominant values of wildlife habitat, recreation, watershed, and scenery were preserved. But since that time, it has been under serious attack with the Forest Service encouraging establishment of several lumber mills in the area and since then, it has promoted aggressive incursions for timber-cutting. These cuts have not been economic. The reports which have been made available to you by the Wilderness Society and others demonstrate that virtually every cut on the Bridger-Teton is a negative-benefit cut, measured in dollars.

Let's talk about some other measurements that I think need to be included. First, I think there is a question of future costs which are not really being fully cranked into these considerations. I talk about the cost of maintaining road closures on the roads which are built as a consequence of these sales. Andy referred to these a minute ago.

These are not easy to put in force. They are not easy to maintain, and they are a long-term obligation if the environmental impacts of sales on the local wildlife populations are to be kept under control.

So every time one of these major roads is built into a previously unroaded area, you have got a future cost of the timber program that each year has got to be carried out, unless we were to frankly fudge on the environment-versus-timber tradeoff that was implicit in the original sale decision.

Second, we have the needs for stand management in these areas. The regrowth in the clearcuts varies widely. In some cases, we have clearcuts dating as far back as 25 years which have not been reforested yet. They are not successfully growing new trees.

In other areas, natural regrowth has come in very densely, so that what you are growing is a crop of future pencils. That is not accounted for in the Forest Service's future yield projections.

Finally, local wildlife management agencies are faced with costs because their task in managing the wildlife populations and the hunting use of these areas is made more difficult by the roads and the timber sales. Those are costs which are not covered by the Forest Service and are not impacts on the Federal budget. These are impacts on the local game and fish department in Wyoming, which they will have to fund. So in effect, the State is being asked to subsidize this timber program.

We have heard the argument made that timber sales are conducted for wildlife benefit. All I can tell you is from my own personal experience involved with the timber program in the Yellowstone ecosystem for 14 years and from many dealings with the State game management agencies, I know of no sale in that program over that period of time which was preferable, from the wildlife point of view, to not having that sale. I don't know of one. There are some which are better and some which are worse, but on balance—and I have recently discussed this with the local game and fish managers—I don't know of any sale which they would have preferred to have had versus not having had that sale.

Specifically, I refer in my testimony to the Red Creek-Cottonwood Creek sale in which a study which had been cooperatively entered into by the Forest Service and the game and fish to evaluate the impacts of logging in one area versus the elk use of a control area was invalidated because the Red Creek-Cottonwood Creek sale logged the control area.

We feel that the costs of environmental constraints should be properly charged against timber sales and that a justification of sale diseconomies based on the environmental considerations is frankly invalid reasoning. We think that these environmental constraints are part of the tradeoff that the Forest Service goes through in trying to justify its sales in the first place, to justify carrying out the sale program by saying that it is not environmentally damaging because of the controls which they impose. Now they try and say we should be willing to pay a subsidy because of those controls. We find that logic difficult to follow.

I am concerned, frankly, that we are going to see new accounting methods arise in the next few months which will tend to show that these costs aren't as great and that the sales are more easily justified on a dollar basis than we now believe. I think that the subcommittee should be wary of fresh accounting systems which demonstrate that these sales are not deficit.

We think that the subcommittee could continue its work and we think the need for action is urgent. The cumulative effect of the Forest Service timber sale and roading program mounts annually.

On the Bridger-Teton Forest, the one I am most familiar with, 1985 will bring major new road incursions at a deficit in the key elk habitat, at the Bull Creek/Harness Gulch sale, the Gunsight Pass sale, and many other areas. These affect not only the national forest lands, but also the totality of the greater Yellowstone ecosystem. We think prompt action is needed.

I would also refer you, attached to my testimony are a number of clippings from statewide newspaper articles relating to this problem and I will just read the headlines briefly. "Officials Say More Roads Planned for Logging Operations;" "Forest plan hurts Elk, Game and Fish, Says;" "Peterson's Remarks Shock Game and Fish Chief"—that was referring to Chief Peterson's comments which were mentioned earlier this morning. "Game and Fish Protest Medicine Bow Forest Plan;" "Plan Would Boost Bridger-Teton Timber Sales;" and "Officials Blame Logging and New Roads for Elk Decline Near Jackson Hole."

I think that these articles will be instructive to all of you.

Thank you for the opportunity to testify.

[The prepared statement of Mr. Hocker appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Hocker.

Mr. Weaver, do you have questions of the members of the panel?

Mr. WEAVER. Mr. Chairman, I thank you, but I want to particularly thank you and the rest of my colleagues on this subcommittee for holding these hearings. I think that they are of great importance and make a great contribution. I want to thank you personally for entering this issue, Mr. Chairman.

I have, for many years as chairman of this subcommittee, and during my 10 years in the Congress, tried to make the case to the Congress that these witnesses have so ably made today. I guess I failed, because I have been a completely lone voice in the Congress trying to make the argument that you have made today in presenting this evidence. I think the witnesses' contributions are very important and the chairman and members of this subcommittee's contributions in holding these hearings, exposing the Congress to what is happening in our national forest is of all-out increasing importance.

I feel that finally the long struggle I have had to bring this to the Congress is ending and the real issues are being presented.

I want to thank my dear friend and constituent, Mr. Stahl, for his excellent testimony. The way he showed the Forest Service arguments to be spurious, if not ridiculous, was excellent. The charade that we hear from the Forest Service to explain these deficit sales and building superhighways and road networks throughout our national forests is, as I say, spurious. It has been shown for what it is by Mr. Stahl's testimony. We trust our great national forests to the Forest Service, and yet they persist in practices that are not beneficial to those great forests.

I have moved to cut the road budget a number of times in this Agriculture Committee. I have fought the enormous amounts of money we have spent on roads, 500 and 600 and more millions of dollars a year. Several times I have succeeded in persuading the Agriculture Committee to make cuts in the road budget, only to have, 3 or 4 days later, a motion made to reconsider and reverse the vote that I succeeded in passing.

Perhaps through this evidence we have heard today and will continue to hear, the Congress finally will be made aware of what is happening in our national forests, and we can adopt motions such as I have made in the past.

Mr. Chairman, I have no questions for these witnesses. Their testimony and arguments are very clear. The devastating statistics that they have given us stand on their own. I have an issue in my own congressional district, Mr. Chairman, that cuts against the Forest Service and BLM arguments that roads help us with wildlife. The BLM recently proposed closing 250 miles of roads to meet wildlife requirements in the Coos Bay district of my congressional district. I believe that BLM's own actions clearly show what roads really do to our wildlife habitat.

Thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Morrison.

Mr. **Morrison**. Thank you, Mr. Chairman.

The testimony was excellent, all of you. I think you were put in this panel by the chairman wisely because you represent sort of regional special looks and your stories have been well made.

Mr. Stahl, I would ask only if, as you have analyzed the number of figures from across the country, if you could indicate to us that region 6, which seems to have about the best record on returns on timber sales, is actually subsidizing Forest Service activities in other parts of the United States?

Mr. **Stahl**. One could make that argument, depending on how you did your accounting. Region 6 makes numerous investments in timber management which are economically inefficient. Right now, region 6 is living off the harvest of old-growth timber that we didn't have to pay to grow. We inherited it free of cost from Mother Nature.

As region 6 moves into intensive management on a sustained-yield basis of those same lands, they are going to find the benefit-cost situation getting much, much worse because we have to pay to grow those new trees. We have to plant them at $300 an acre. We have to precommercially thin them. We have to fertilize them, and we only get a return from that investment 90 or 100 years down the road.

So, as long as we are living off our capital that we didn't pay anything for, region 6 can show an overall profit, even though, in spite of that, many areas in region 6 do lose money right now, even mining the old-growth timbers, especially on the east side. So, if you look at it on a national perspective, yearly receipts from region 6 exceed yearly costs by a substantial margin, enough to offset the deficit of receipts in costs from other regions. That doesn't mean that region 6 is not going to have worse economic problems in the future, nor does it mean that region 6 is not making today economically inefficient timber management investments, especially on the east side of the mountains.

Mr. **Morrison**. Based on your criteria, probably many of the forest lands that we own as citizens of this great country will be inefficient to operate as far as future harvests are concerned?

Mr. **Stahl**. You know, that is a very cogent point. Remember the national forests were the lands that nobody wanted when they were settled. When our Nation was settled throughout the West, these were the high elevations, poor productivity, difficult to access, unstable soils, low growth potential and so it comes as no surprise that sustained-yield management of public lands does not give near as good a return as sustained-yield management on the more productive private lands which were settled.

Mr. **Morrison**. Excellent point.

Thank you, Mr. Chairman.

Mr. **Whitley**. Mr. Olin.

Mr. **Olin**. Thank you, Mr. Chairman.

I wanted to ask Mr. Stahl a couple of questions. I was quite interested in your approach to the economic efficiency calculation. I wanted to ask you first whether you have reviewed your proposed mechanism here to evaluate the situation with the Forest Service people?

Mr. **Stahl**. Yes, I have. In fact, the analysis of Tolan Creek that I have attached to my testimony was not done by me, it was done by the Forest Service, so the Forest Service is very well aware of the proper way to do economic efficiency analyses. They just don't do it very often, and when they do it, they generally ignore the results.

Mr. **Olin**. They don't object to your method of analysis?

Mr. **Stahl**. Not so far as I know, they don't. Many timber sales contain an appendix E, an analysis such as I have described, but I have never seen that analysis cause the Forest Service to decide not to make those investments.

Mr. **Olin**. This analysis requires the evaluation of lots of factors which might have different values in different locations. Is that not the case?

Mr. **Stahl**. It is a very site specific kind of analysis.

Mr. **Olin**. I mean, you don't have elk every place, for example, and the degree of wildness you need for elk, for example, is different than what you might need for some other wild game.

What I am getting at is, is it really going to be practical—let's say we bought your idea and tried to apply it broadly to the Forest Service, can you reach close enough agreement on the value of the different factors that have got to have a number put on them in order to make the thing practical, or do we have to have it all run through you?

Mr. **Stahl**. No; I trust not. I don't have enough time to do that. The analysis I have described only looks at the timber costs and timber revenues. It does not attempt to put a dollar value on elk or recreation or water or anything else. What it tells you is this: Looking at timber alone, are the investments in timber management profitable or not profitable? If it turns out that investments in timber management on timber justification alone is not profitable, and you know that the timber sale is going to have adverse consequences on other environmental values, then you need go no further with your analysis. You don't need to know the cost to the environment in dollar value if you already know you are losing money on timber.

Now, there are situations where the timber sale may provide a benefit to wildlife and those are the cases where you have to subjectively weigh the benefit to wildlife versus the loss from timber. Those are the rare cases.

As you have heard testimony today, the assertion by the Forest Service that their below-cost sales provide benefits to other environmental values is simply not the case. So just look at timber alone. If on timber basis alone, the sale loses money and it causes environmental degradation, you don't need to know the costs of the environmental degradation; you just simply know it exists and you are losing money on timber anyway. You need go no further in your analysis.

Mr. **Olin**. Does this panel generally—is it in agreement with the thought here that we can get some kind of an improved economic analysis and that would be very, very helpful in this problem or do you think that is not really going to solve the problem that you are bringing up?

Mr. Hocker.

Mr. HOCKER. I would like to speak to that for just a second. I think that if we define what goals we are trying to achieve through this, then an analysis to decide how effectively we are achieving those goals can be accomplished and can be accomplished in a way that will be generally acceptable. There will be debate over those goals and, of course, that is part of the democratic process.

I think the problem that we all see right now is you run down a list of conceivable goals and it is hard to see which ones are being accomplished.

Mr. OLIN. Isn't it true that for a given forest, for example, within the forest, the goals are somewhat different in different parts of the forest and they are different between different forests? I don't know what the practical difficulty is going to be in arriving at the commonness of understanding on that. Is that a practical thing to accomplish?

Mr. HOCKER. I don't think it is impossible to do. I am not saying there won't be debate, but if we look at the current situation, what goal are we accomplishing by, in effect, pumping this present subsidy into this program, is our goal to produce timber? I don't think it is an effective way to do that.

Is our goal to improve wildlife habitat? There is great disagreement that that is being accomplished in any degree by this present program.

Is it to enhance recreation, clean air, or water? Again, there is dispute that that is being accomplished, whether or not you think it is an economic way to accomplish it. There is doubt that it is being accomplished at all.

I think the only real thing we are accomplishing right now is spending money to support a single local economic activity in specific areas of the country.

Mr. OLIN. Mr. Chairman, if I could have a couple more minutes to ask the other two panelists if they care to comment on this point.

Mr. HOCKER. Just to close, I question whether—if our goal is to support local economies in areas of the West, I don't think that we need to sacrifice as much of the forest values as we are to achieve that goal.

Mr. OLIN. Mr. Rocky Smith.

Mr. SMITH. I would like to point out that in every forest plan that the Forest Service has written—at least all the seven for Colorado—there is a section in the environmental impact statement concerning economic analysis. We have found those to be inadequate. For one, they are very difficult to read; another is that they use values that we disagree on, and as Mr. Benfield testified earlier, what we think—and what Mr. Stahl was just talking about a minute ago—what we think needs to be done is—and we think we can get agreement on this—is to get an analysis of timber, per se, just looking at the economics of timber, and if it is profitable or even if it isn't, you have to look at other things, but as Mr. Stahl said, if you know that the other values in the area, such as wildlife, nonmotorized recreation are going to be harmed, and you have a negative value for timber, then you really need go no further.

I think the method that Mr. Stahl has used and it has been used by other forest economists also, is a very valid one and I don't think the Forest Service would disagree with it except that if they had to abide by the results, then they might have some difficulty. But I think we can get agreement on the method. I do.

Mr. **OLIN**. Mr. Jayne.

Mr. **JAYNE**. I think the problem may start a little further up the line. I find the Forest Service's idea of economic efficiency right out of "Alice in Wonderland." What they do with the plans that I have reviewed and also the RPA draft, they will define their alternatives, a range of alternatives, regardless of any application of 6(k) of NFMA and then they try to figure out the most cost effective way to implement each. In other words, their target- and goal-driven timber harvest and so on.

That has got to be changed and the Forest Service has got to be instructed to be more honest about that.

The second thing, as I pointed out, is that the present net value, which is calculated based on cost to the Government versus benefits to everybody, isn't telling you or us or any of the rest of us how much it is really costing the Government. That has got to be changed, too.

I suggested one level would be just the benefits versus the cost to the Government and that should carry down from the plans to individual timber sales, as these gentlemen have indicated. I have reviewed a lot of the EA's for timber sales, too, in central and eastern Idaho and they are very skimpy in providing any economic analysis at all, usually.

The whole thing needs to be looked at. I think you can do a first-cut analysis just based on benefits versus cost to the Government and this should be for all three levels, RPA draft, forest plans, individual timber sale EA's.

Mr. **OLIN**. I thank the panelists and I thank you, Mr. Chairman.

Mr. **WHITLEY**. Mr. Marlenee.

Mr. **MARLENEE**. Thank you, Mr. Chairman, and I would like to thank the panel and welcome them in their appearance before the subcommittee and say that you probably will not get a fairer hearing, or any witness would not get a fairer hearing than before Chairman Whitley here. He is one of the fairest Members of Congress that I know of, so I welcome you and I commend the chairman for having this hearing.

Mr. Hocker, you have made a couple of interesting observations. You live in a part of the world that I come from, Wyoming, Montana. How long have you been in that area?

Mr. **HOCKER**. As my testimony states, sir, I moved there in 1972.

Mr. **MARLENEE**. In 1972. You were from where?

Mr. **HOCKER**. I was a citizen of the United States. I was born in New York State.

Mr. **MARLENEE** In New York City. Well, it is a pretty area. It is a tourist area.

During that time, 1972 until the present time, there must have been a number of Forest Service plans proposed and they solicit comments on those plans, do they not?

Mr. **HOCKER**. Yes, sir; that is correct.

Mr. **MARLENEE**. Have you submitted your comments on a number of those plans?

Mr. **HOCKER**. Regularly.

Mr. **Marlenee**. Regularly? Let me ask you this, then, have you ever submitted written testimony supporting any timber sale?

Mr. **Hocker**. I don't think so because, as I stated before, I am not aware of a sale which I felt was beneficial for wildlife and recreation values on the national forests in that area.

Mr. **Marlenee**. You have never supported a timber sale in that area?

Mr. **Hocker**. To the best of my recollection.

Mr. **Marlenee**. Let me ask the rest of the panel, have any of you ever, under similar circumstances, supported a timber sale with written comments?

Mr. **Stahl**. I must confess that for 2 years I supported numerous timber sales in my capacity as a lobbyist for Associated Oregon Loggers.

Mr. **Marlenee**. And that was when?

Mr. **Stahl**. That was from 1980 to 1982, about.

Mr. **Marlenee**. I thank the panel and I have no further questions.

Mr. **Jayne**. I would like to respond. I guess I was asked. I don't think anything with that much impetus needs to be supported.

Mr. **Marlenee**. Pardon me?

Mr. **Jayne**. The timber sales roll on regardless of whether one supports them or not. I don't think they need to be supported by people who were more concerned about what they do to the environment and the wildlife habitat.

Mr. **Whitley**. Mr. Jayne reminds me that I have here a letter from our colleague, Mr. Richard H. Stallings, who represents the Second District of Idaho, and who is a member of this subcommittee and was unable to be here this morning. He wanted to express his interest and concern in the hearings and particularly the fact that we had witnesses from both regions 1 and 4 of the national forests in the State of Idaho and assure us of his interest in it and he will be studying the testimony as it is presented.

At this time, we will recess the hearings until 2 this afternoon.

[Whereupon, at 12:30 p.m., the subcommittee was recessed, to reconvene at 2 p.m., the same day.]

AFTERNOON SESSION

Mr. **Whitley**. The Subcommittee on Forests, Family Farms, and Energy will renew its sitting.

Our next scheduled witnesses are a panel composed of Mr. Robert Smythe, Mr. Ed Clark, Mr. Jack Bostic, Mr. Jim Loesel, and Mr. Larry George. I believe they are here with the exception of Mr. George. Our first witness will be Mr. Robert Smythe, environmental consultant, from Chapel Hill, NC. I have heard of that place.

We welcome you, Mr. Smythe, and we will reiterate what we said this morning that your prepared testimony will be received in its entirety, and we invite you to summarize it for us, please sir.

STATEMENT OF ROBERT B. SMYTHE, CONSERVATION CHAIR, NORTH CAROLINA CHAPTER, SIERRA CLUB

Mr. **Smythe**. Thank you, Mr. Chairman, I will try to do just that. I must say this is one of the few times I can remember that the weather in Washington, DC, was better than the weather in Chapel Hill.

Mr. WHITLEY. Well, it is dry down there, at least it was when I left.

Mr. SMYTHE. Dry and hot.

Mr. WHITLEY. We need some of this rain—take some of it back with you if you would.

Mr. SMYTHE. Mr. Chairman, and members of the subcommittee, I would like to thank you for holding these hearings on this issue which is a matter of concern to several thousand citizens in North Carolina. I am, myself, a biologist, a professional consultant on natural resources. I have a personal longstanding interest and involvement in national forest management, having dealt with this subject for several years when I was at the President's Council on Environmental Quality, as senior staff member for natural resources.

But I am also here because I am concerned about the national forests for another reason. Like you and your constituents, my family and I are the owners of these forests. I currently serve on the forest planning committee of the Sierra Club at the national level as a volunteer, but I will respond to some of the questions raised in your charter for this hearing primarily from the perspective of the State of North Carolina where a number of us have recently completed a detailed analysis of the Forest Service's proposed management plan and drafted an environmental impact statement for the two largest national forests in North Carolina, the Pisgah and Nantahala National Forests, which together constitute about a little over 1 million acres of western North Carolina.

I served as the coordinator of this review and analysis which was submitted jointly to the Forest Service in Nashville in the name of the Sierra Club and the North Carolina Wildlife Federation. I believe your staff is in possession of that document. I have a full set here if other members would be interested, but you can see both of our logos are on that document. We were in unanimous agreement in the major findings that we raised in that study.

Now this was not an individual effort, it was a, we think, one of the more detailed technical reviews that's ever been done of a national forest plan. We had as team members of that review distinguished faculty members from four major universities in North Carolina and additional expert consultants in fields of wildlife management, forest economics, forestry, ecology, geology, and other disciplines.

The Forest Service has received that critique, has reviewed it and has given us, I modestly say, some pretty marks on it. They felt that we raised the number of fundamental issues with regard to the analysis that made up their presentation of the forest plan for these two forests. And they are not doing some reassessment as a result of receiving that critique which we hope will derive their supplemental reports and the final plan in the direction that we feel is in the best interest of the citizens of not only North Carolina, but of the east coast and the United States.

Our analysis revealed several things that gave us concern. The Forest Service, for these two national forests, is proposing substantial increases in the low cost timber sales. These sales would require extensive new road construction in roadless areas of both forests, which as they are now, currently provide substantial wildlife and recreation benefits. The Forest Service's justification for this road construction and increased timber sales was based, we maintain, on a flawed analysis of recreation and wildlife benefits driven by an effort to meet unrealistic timber harvest quotas handed down to them from the region.

I would like to present a few of the findings from our analysis because I think they relate to the major questions raised by this subcommittee. Are below cost timber sales common? Can they be justified on the basis of nontimber benefits? If not, what should be done about these below cost timber sales by the Forest Service and by the Congress to assure that the commodity users of the national forests—who certainly have a right to buy those commodities—are not being subsidized at the expense of recreational users and all other Federal taxpayers?

For what it is worth, I would point out to you—I have given you my background. My brother is employed by Simpson Timber Co. in the State of Washington, and contrary to what some people might think, I have an interest in seeing that he is able to feed his family and continue to work in the forest products industry. But we have an issue which you have raised before this committee of below cost timber sales. And I think that you ought to be commended for attempting to get down to the nitty gritty of it.

We think the that the definition of below cost timber sales is fairly obvious. I don't know that there is any real major dispute on that. The General Accounting Office has done a pretty good job of laying out what below-cost timber sales are, and it has even suggested a fairly detailed methodology accounting for economic costs and economic benefits on a sale-by-sale basis. You all are quite familiar with that document.

We think that it is on the right track. You have heard some additional suggestions this morning as to ways in which the economic gains and losses can be computed, and we think that that is something that is very much needed. It is simply sound business and accounting practice. We, as the property owners, deserve no less.

Now such an accounting was not explicitly used in the economic analysis for the Pisgah and Nantahala Forests, but the draft EIS presents a fairly detailed set of numbers regarding partial benefits and partial costs of the various activities proposed. From those tables with the help of a hand calculator, we were able to determine that timber from these two forests is usually sold below cost to the public of managing for sale.

The Forest Service presented eight management alternatives in this document with accompanying projects of benefits and costs. Alternative A is the current management direction. The separable benefit-to-cost ratio for timber harvesting, for the current management direction, is 0.584. In other words, timber sales are expected to return an average of only 58 cents on the dollar. That is for the existing management direction.

The Forest Service's preferred alternative for the future for these forests would have a lower benefit/cost ratio or return of only 54 cents on the dollar. These are with the Forest Service's own figures. If this alternative is selected, the Forest Service's own data indicates that the discounted cost of timber management will exceed the benefits by more than $100 million over the next 150 years. In fact, an examination of the FORPLAN computer model runs which were used by the Forest Service in coming up with this analysis shows that timber costs will exceed receipts in all major alternatives, including one which is designed to maximize net present value, the hardnosed economist's alternative over the next 40 years.

In these projections, the costs of payments to counties appears to have been omitted, and timber revenues are based on outdated stumpage prices and demand projections that are substantially higher than recent estimates; thus even the above negative benefit projections must be viewed as optimistic. Now, I think there is no doubt from our analysis that on this forest, virtually all of the proposed timber sales would be below cost on a strict accounting basis. But as you have heard before, and I am sure will hear again, the Forest Service and timber industry representatives have several explanations for that or arguments to explain the current below cost timber sales.

I won't go into the response to these in detail, but summarize, first, the argument that the construction and maintenance of roads in the national forest serves purposes other than timber sales is an obvious one. The argument is that therefore the full cost of roads should not be charged to timber harvesting. It certainly has an intuitive appeal. However, the facts are that most roads constructed in national forests, and certainly in the Pisgah and Nantahala Forests, are used primarily for timber harvesting and only incidentally or subsequently for other purposes.

The Forest Service has not yet come up with a rational way to assign partial road costs to activities other than timber harvesting. We encourage them to do so. I don't think there is anything wrong with making that analysis. It would tell us some interesting things. For one thing, it would show that the benefits claimed for the activities are probably substantially lower than what has been projected for it. I think that it is interesting to note that our analysis shows that even if more than half the road costs associated with timber harvesting were removed, in other words, if we took out of the timber account half the costs of road construction on these forests, all eight management alternatives would still have costs in excess of benefits.

Second, national forests are managed for multiple uses over long time periods. It is argued that benefit/cost analysis is not appropriate for individual timber sales. I don't think that that is a sound argument, I think we would accept the argument that we don't have to insist that every single timber sale would be a sale above costs. But it is useful to know what percentage of the timber sales in any forest are below costs. And we need that accounting data to come up with that knowledge.

Nevertheless, for these national forest plans, that argument doesn't apply because these plans represent an aggregation of many timber sales over time. And for these forests, our analyses show that there are few places in either forest where the mature value of either existing or regenerated timber stands in the future will exceed the cost of the roads needed to harvest them.

The resulting overall benefit/cost ratios for the range of alternatives in the draft EIS for the Pisgah and Nantahala Forests show an interestng relationship. The ratios are directly and inversely related to the proposed levels of timber harvesting. The larger the proposed volume of timber to be cut the lower the ratio of benefits to costs. In other words, the larger the average cut the greater the amount of below cost timber sales required to meet it.

Now, I think we can give short shrift to the argument that environmental constraints greatly inflate timber sale costs. One person's inflation is another person's environmental protection. I would maintain that these costs are need, indeed, inflated. They simply reflect legitimate constraints need to protect the soil and water resources of the national forests from loss of fish and wildlife, and from erosion from roads. In fact, much of the national forest land in the East, as you may know, was acquired from private landowners after being subjected to the ravages of this type of cut and run timber harvesting.

These lands have benefited greatly from the constraints of Forest Service management. We believe that there are additional benefits to be derived from stricter controls on timber harvesting on steep slopes or adjacent to rivers and streams. If timber sales are not profitable under these constraints, the sales need not take place. The quality of the enviroment should not be traded off in order to subsidize an otherwise uneconomic harvest.

I think that I would go on to point out that in my experience the primary problem leading to below cost timber sales is that Members of Congress, and the executive branch, and officials in the Forest Service have not generally recognized and emphasized the difference between the biological capability of the national forest to produce timber and their much lower economic capability to produce a sustained flow of timber above cost.

We are often told that the National Forest System can produce several times as much billion board feet or million cubic feet per year as it produces. But we are not told that that would represent massive below cost timber sales. The RPA process, which has led to the establishment of national and regional targets or demand projections has had some utility, but has also been used to generate these forest level targets which are based on policies that ignore the realities of the marketplace.

Thus we see most of the national forests in the Southeast projecting increased timber sales in the face of declining demand, cheap Canadian wood products, and massive buyouts of timber sales contracts in other regions of the country. Of course, if we priced timber low enough, they will be a continuing and even increasing demand for it. If we give it away, people will be first in line to get timber from a national forest before they go to private landowners and woodlot managers. But when we do this, pricing timber from the national forest below fair market value, we have both a subsidy program to the recipients and we do a disservice to the many private forest and woodlot owners who are thereby discouraged from investing in improvements to their stands because they cannot compete with below cost Federal timbers.

Mr. WHITLEY. Would you complete your statement, sir, in the interest of time so that all of the witnesses can be heard.

Mr. **Smythe**. I have one paragraph to give you.

The last, I think, major thing that you asked was how has the Forest Service implemented section 6(k) of the National Forest Management Act. Now our review of the Pisgah/Nantahala Forest documents raised serious questions about the Forest Service's compliance with the requirement to identify lands not suited to timber production. Despite evidence that many areas of these forests have very low productivity, very few, if any, acres were excluded for economic reasons.

A portion of the forest was excluded from the timber base, but it was primarily more physical constraints, steep slopes or land that was not accessible or wilderness areas or administrative units. There was very little indication that any land was excluded for economic reasons despite the fact that the FORPLAN computer model shows that there is very little profit to be made from virtually any acreage in these two national forests.

Forest Service planners told us that they tested all analysis areas to determine whether they returned, and this is: "positive gross benefits" when harvested. But, however, in our view, the appropriate test of whether lands are economically suitable for harvest should have been whether the lands are suitable harvest net of opportunity costs. In other words, then if it is from stands that are cut should have been compared to the benefits that would have resulted, recreational and other benefits, if the stands had not been harvested.

It appears that greatly inflated benefits were claimed for recreation in areas after they were roaded and clearcut. These benefits were based largely on dubious claims that there would be enhancements to wildlife populations in such areas. We believe that this rationale is contrary to common sense. Wildlife in the mountains of North Carolina has managed to exist and prosper for at least 20,000 years without the benefit of the Forest Service clearcuts.

And to make this claim ignores the present high net economic values generated by the wildlife and recreation opportunities that already exist in areas of old growth forest before they are roaded and cut over.

In conclusion, we recommend that any claims of enhanced wildlife and recreation values not be allowed to offset economic losses from timber harvesting and that section 6(k) be strenghtened by direction from the Congress to see to it that this does not happen. We think that the planning process which is mandated in the National Forest Management Act has worked fairly well so far. We have learned a lot more about the national forests than we have ever learned before.

But we are waiting to see whether the Forest Service will respond to the overwhelming public comment that has expressed sentiment in favor of the recreational values of the Eastern National Forest, which are after all the recreational rooftop of the Northeast and Southeastern United States, and not as a basis for providing additional subsidized timber.

Thank you.

[The prepared statement of Mr. Smythe appears at the conclusion of the hearing.]

Mr. WHITLEY. The chairman would say that in order for us to reach all the witnesses, it really is important that each witness submit his entire written statement, which we receive for the record and we summarize our testimony.

Thank you for a very comprehensive statement, Mr. Smythe. I will have a couple of questions for you a little later on.

Mr. SMYTHE. All right, thank you, sir.

Mr. WHITLEY. Our next scheduled witness is Mr. Ed Clark, the president of the Virginia Wilderness Committee of Waynesboro, VA. Does he belong to you, Mr. Olin?

Mr. OLIN. Sure does. While I have the floor, I would like just to say how much I appreciate seeing Mr. Clark and Mr. Loesel, a constituent of mine also; and John Bostic is a neighbor. He lives over in Craig County, just over the mountain from me. I am awful glad to see all of you gentleman here today. I am looking forward to what you have to say.

STATEMENT OF EDWARD E. CLARK, JR., PRESIDENT, VIRGINIA WILDERNESS COMMITTEE

Mr. CLARK. Thank you. Mr. Chairman, it is with a great deal of pleasure that we do address the subcommittee today, and we are very proud of Mr. Olin's very active involvement in this issue. We, to a very large degree, owe to Mr. Olin the credit for passage of a Virginia wilderness bill in the closing hours of the last Congress and we owe him a great debt for that.

Mr. WHITLEY. He is entitled to some credit for that. I can assure that.

Mr. CLARK. Canonization was what we had in mind, but he refused it.

I am Ed Clark. I am, as you stated, the president of the Virginia Wilderness Committee. It is a statewide conservation organization whose main, if not exclusive purpose, is to tend to the interest of the public land management. Wilderness, though in our name, is not our only interest, and the management of public lands for all nonconsumptive users is our goal.

I consider myself to have in a very real sense a love affair with the forests of western Virginia, one that dates back to my youth. It was this love affair with a forest that caused me to become active in the conservation movement just after my college days when my favorite area in the George Washington National Forest was clearcut perhaps for the best of reasons, but it was nonetheless quite shocking to me at that time. And I decided that 8 or 9 years ago to find out what was going on and how these decisions were made.

That commitment to become involved led me into a professional career in conservation which eventually brought me here to Washington, but I am very pleased to say that my love affair with the forest prevailed, and after several years in Washington, I returned to the Shenandoah Valley where presently I am the director of the only wildlife hospital in the State of Virginia.

I am very concerned, very concerned, indeed, about the present trends that the Forest Service seems to be manifesting to manipulate and exploit the national forests in Virginia and elsewhere to create timber yields which seem to be artificial on the public lands, yields that are neither economical nor are they compatible in the degrees to which they have been proposed with the best interest of the public.

I would like to preface my remarks, as well, by saying that I heat my home with wood that comes from the national forest. So I do not wish to be accused of opposing timber harvest on public land. I am one of the direct beneficiaries of that. And while I recognize that there may be circumstances under which the National Forest Service, and, therefore, we, the taxpayers, may have to conduct management activities for which there is not a direct economic benefit. The current practice of selling timber at a fraction of the cost of producing it must be stopped.

Every recent cost/benefit analysis that you have been hearing throughout the day has pointed out that the timber management activities of the National Forest Service in Virginia and across the country are so far out of kilter that in Virginia, which is one of the worst States, the cost of producing timber exceeds the revenues by tenfold. And that is a conservative estimate. The studies further indicate that in many cases, the Forest Service has been accused of underestimating the real cost, the long-term cost of their management.

The management plans put forward by the George Washington and the Jefferson National Forests are calling for a fundamental change in the age class distribution and the management strategy on a majority of the acres within the national forest, the Virginia region, in order to improve the timber stand. I find it impossible, however, to justify this wholesale restructuring of hundreds of thousands of acres in order to create a timber harvest which even under the best of circumstances is a losing proposition.

The losses incurred in the timber management strategy as it now is being carried out amount to a direct and totally unnecessary subsidy to the timber industry in the State. Other cost-effective forest uses like wildlife and recreation are being compromised, eliminated, or at the very least ignored by this tunnel vision to management strategy.

Throughout the proposed plans of both of the Viringia forests, management activities which are primarily directed at timber producion are rationalized, justified, and defended upon the basis of alleged nontimber benefits which will result from each of these specific management activities. And yet the user groups, such as hunters, hikers, fisherman, campers, weekend visitors to the park, who are supposed to be the alleged beneficiaries of these management activities, are the ones that are most actively carrying the battle to oppose the management plans of the forest.

This may indicate that some of the nontimber impacts should be valued as negative rather than positive implications. At very least, we feel strongly that in cases in which greater nontimber values or at least equal nontimber values, or use opportunities exist prior to manipulative management, where they exist should not—excuse me, the timber management activity should not have the opportunity to justify itself on other recreational needs. They are simply looking at add-on recreation benefit, which is dubious. They are not taking away the negative impacts.

A perfect example is when they build a road into a watershed, a hollow that may contain a trout stream. They will add on benefits to justify the roads, saying that this will include access for the public to visit the watershed area, increase fishermen access to the stream, wildlife access for hunters, and yet they never include in their analysis the negative impacts which roadbuilding, and increased access and increased fishing pressure may have on the stream, as an example, sedimentation and this type of thing.

By failing to subtract these lost resource values and lost opportunities, the entire system for justifying management activities is biased in favor of manipulative management of the forest, and is therefore, in my opinion, invalid. When we consider that additional management and maintenance costs assignable to the road are also apparently left out of the analysis on the Forest Service justification scheme, the conclusion becomes even more inescapable.

The Forest Service has simply stacked the deck in favor of foregone conclusions and predetermined management prejudices. This is particularly true in Virginia with outdoor dispersed recreation and wildlife interest, most notably black bear and wild turkey. We have in Virginia two forests, both of which are in the planning process now. In the Jefferson National Forest, the focus has been primarily on the roads issue.

Roads seem to be the manifestation of forest planning that has attracted most of the attention. It is not really as much the volume of wood being taken from the forest, as the infrastructure being proposed to facilitate the harvest. In Virginia, the focus on roads in the forest, as particularly the Jefferson National Forest, caused them to assess in the section of their plan called, "Public Issues and Management Concerns," item No. 4, which was entitled, "The amount and kind of access needed to manage the resources of the Jefferson National Forest."

In the plan they went on to state, and I quote directly:

> The two sides of this issue are: one, too many roads are being constructed, road standards are too high, and road maintenance is inadequate and roads adversely affect other resources; and, two, more and better access is needed.

To me this mixes apples and oranges, implying that access and construction are the same issue. This impression is grossly inaccurate if not deliberately misleading.

The overwhelming sentiment voiced in every public meeting and every public forum is that the members of the public, the forest users, strongly oppose increased roadbuilding. The need for new roads has not been established, and this road system cannot be justified. Access considerations most frequently do not hinge on construction plans, but on maintenance and management issues.

I believe that the Forest Service should seek first to provide outputs, products from the forests, that are unique to the public lands, products in the production of which they will not compete with private interests. Not every activity of the Forest Service needs to balance on the books in terms of income and debits. But where the deficits do occur there should be a compelling public interest at stake. Timber production on the public lands in Virginia is negligible when viewed within the context of the total timber produced in the entire State of Virginia.

The timber industry in Virginia is the very cornerstone of many local economies, and certainly we do not wish to do anything that will compromise that important industry. Yet on the other hand, the public lands produce only 4 to 5 percent of the timber consumed by that industry. So to defend these management activities upon the overall economic health of the community seems to be very contrived at best.

On the other hand, nearly all of the outdoor recreation opportunities in the region are totally dependent on public lands. More than 55 million people live within a 1-day trip of the George Washington National Forest. And that includes the Metropolitan Washington area. Those of us that live among the areas of the forests that are heavily used know that by and large the forest users are people from outside the area, bringing both economic well-being and an influx of visitation and tourism to the area. That is where the benefits lie.

Those opportunities do not exist on private land. Timber can be produced on private land, and in fact the timber management particularly in Virginia on the public lands not only loses money, but it accomplishes no worthwhile goal. For me the absurdity in this entire system, in the way that the Forest Service is viewing this, is summed up by the really contrived defenses that they are using, a clearcut along scenic highways, such as our Blue Ridge Parkway, which is known the world over, is defended as creating visual diversity.

The implication here is that tourists will enjoy the view more if they have a few clearcuts to gaze upon, and that this is a legitimate benefit for the people of Virginia. Frankly, I wouldn't buy a used car from somebody that used that kind of argument, and I certainly don't buy their management defense. No matter what color you paint it, manipulating the forest for timber is boondoggle and you cannot whitewash it.

The deficit sale of timber on public forests particularly in the East needs to be curtailed, and we look to this subcommittee for guidance on that.

Mr. Chairman, thank you for the opportunity.

Mr. WHITLEY. Thank you, Mr. Clark.

[The prepared statement of Mr. Clark appears at the conclusion of the hearing.]

Mr. WHITLEY. Our next witness is Mr. Jack Bostic of New Castle, VA. Mr. Bostic, we will be glad to have you summarize your statement for us, sir, at this time.

STATEMENT OF JACK BOSTIC, BANK MANAGER, MEMBER, CRAIG WILDLIFE ASSOCIATION

Mr. BOSTIC. Thank you, Mr. Chairman, and other members of the subcommittee. To preface my remarks, you might be curious as to why I would be interested in national forest management. There are two reasons, I suppose. One, I am a native of Craig County which is one of the least populated counties in southwest Virginia, and we have probably one of the higher proportions of national forest land in the county.

The other reason is that I am a hunter, not a very good one, but a hunter. About 3 years ago the Jefferson National Forest proposed to road one of the very few remaining remote areas we have in Craig County, and they are becoming very, very few. At that point I decided that there probably would be no place left that was not to be roaded, and I better take an interest in what was going on and see if I could somehow turn it around.

I am a member of the Citizens Task Force for National Forest Planning and participated in dialogs with the staff of the Jefferson National Forest in developing a citizen's alternative land and resource management plan for the forest.

Now, Craig County is approximately 215,000 acres, 115,000 acres, over 53 percent, are public lands managed by the Jefferson National Forest. Since the late thirties when the Jefferson National Forest was established, an overwhelming majority of the citizens of Craig County and southwestern Virginia have regarded the U.S. Forest Service as a conservationist agency which saved, redeemed, and managed lands that no one else wanted.

For over 30 years, the Forest Service taught our people by instruction and by example to value the lands which our ancestors had abused; 10 to 15 years ago, we began to suspect that the Forest Service had changed directions. Within the last 5 years, the new direction in which the Forest Service is traveling has become alarmingly apparent. The Forest Service is managing and making plans to manage more intensively the marginally productive lands of the Jefferson National Forest for pulpwood and other commodities with little regard to real and potential damage to other resources.

The transportation plan provides the blueprint for Forest Service development. The New Castle Ranger District was among the first in the Jefferson National Forest to complete a transportation plan. That plan would triple road mileage on the district and on the forest as a whole, according to a July 11, 1983, statement from a forest supervisor's office.

Let me quote:

> When completed, the transportation system will space roads approximately 2,000 feet apart to harvest an estimated total acreage of 191 acres per mile. This would be a total of 3,116 miles of both collector and local roads. We have already constructed 977 miles of this total as of 1981.

A large number of these roads will be deep cut, high fill, midslope roads parallel to each other and to the ridge crest. We have seen first hand the great cost and meager returns associated with such roads. Midslope road, which was an experiment, an administrative action, cost $166,000 for $18,168 in timber sales revenue. Rocky Branch Road cost $142,000 for $7,879 in timber revenue.

Building Hebron Road cost $152,000 to produce $3,000 in timber sales. Price Mountain Road cost $80,000 for $8,264 worth of timber sales. Roland's Run Road cost $105,000 for $2,791 in timber sales. Forest Service staff indicate that these timber sales receipts represent the total for the first 10-year cycle. On these five roads, approximately $645,000 of planning and construction costs produced $40,000 in revenue in the first period.

In its assessment of forest resources, the present draft environmental impact statement and draft land and resource management plan for the Jefferson National Forest, the preferred alternative, attributes 85 percent of present net value of forest resources to noncommodity resources such as wildlife and recreation. Yet, the preferred management alternative proposed tripling forest road mileage and the near exclusive use of clearcutting to harvest timber.

The plan calls for far too short a rotation period in harvest. Apparently 80 years will be the prevailing rotation period with an end result of the forest being overwhelmingly of immature young growth. The relatively short rotation combined with the invariable use of clearcutting will create a patchwork of spot diversity rather than the internal diversity that prevails in most older growth Appalachian ecosystems. This sort of management will be detrimental to a number of wildlife species, will in all likelihood create erosion and surface water sediment pollution, will likely impact ground water recharge and will certainly devalue the forest insofar as recreational use.

The draft environmental impact study does not adequately address or study the cumulative environmental impact of the road system which is proposed to manage these commodity resources. As you may be aware, roadbuilding is probably the single activity most likely to contribute to erosion and sediment pollution of streams. That potential is particularly great when funds are insufficient to adequately maintain the road system created. Historically, the Jefferson National Forest has had less than one-half of the money it needs to maintain its existing road system.

The plan uses all conceivable potential values to any resources to support roadbuilding and commodity development, but it does not similarly apply offsetting devaluation which such activities have on resources. All possible positive effects are stated at maximum value, while negative effects on resources are minimized or not taken into account at all.

I have had verbal assurances from the Forest Service that the amount and degree of timbering are greatly overstated in the proposed forest plan. However, the actual revised projections for roadbuilding and timbering have not been made public. I believe that the withholding of such critical information defeats the objectives of citizen input for forest management implict in the National Forest Management Act of 1976.

The preferred plan treats the Jefferson National Forest as if it were an insular entity. The vast private landholdings interwoven among the forest lands and the management practices on these lands are completely ignored in the plan. To ignore the management practices on these adjacent lands and their impact upon the resources of the forest favors a management intensive plan. It will require that you perform habitat manipulations and provide for various needs which are more than adequately being provided on adjacent private holdings. It will understate the necessity for the provision of old growth ecosystems.

Finally, the plan and draft environmental impact study contain a variety of biases. They are professionally biased in that the planning process—and indeed the Forest Service itself—is dominated by professional foresters. The training and background of a forester predisposes him to manage the forest for commodity production.

There is bureaucratic bias within the plan. No Government agency can continue its existence without activities to occupy its staff.

There is also procedural bias within the plan. The software model used in projections for the plan was a timber management model which was modified for management of other resources. It would appear that the commodity valuation and input with regard to these commodities were more compatible to this model than intangible, noncommodity sources.

I ask you to review the Jefferson National Forest—land and resource management plan, an alternative submitted by the Citizens Task Force for Planning on April 9, 1984. Congressional support of that alternative would result in sound multiple-use management of the forest at economically efficient levels.

I attach a copy of the citizens plan and some other supporting documents with my statement. Thank you sir.

[The prepared statement of Mr. Bostic appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you for a very fine comprehensive statement, Mr. Bostic.

Our next witness is Mr. Jim Loesel, landscape architect of Lexington, VA.

STATEMENT OF JAMES LOESEL, LANDSCAPE ARCHITECT, LEXINGTON, VA

Mr. LOESEL. Thank you, Mr. Chairman. My name is James Loesel and I am from Rockbridge County, which is many times blessed. First, Congressman Olin is our Congressman. We have portions of both the Jefferson and the George Washington National Forest in Rockbridge County. I might add that Lexington is in the center of Rockbridge County, and it is the burial place for Stonewall Jackson and Robert E. Lee. We certainly invite everyone to come and visit because it is a tourist area.

I would like to talk a little bit about the George Washington and the Jefferson National Forests and to elaborate on the things that some of the other gentlemen have said here. Both of these forests are primarily recreation oriented and 85 percent of the present net value from these areas comes from recreation, including hunting and fishing. Less than 5 percent comes from timber.

Most of this land is not very productive. About 35 percent has a site index for oak greater than 70, which is fairly good land. Most of the rest is much less productive than that.

Much of it is very steep and it is erosion-prone. Because of that, it does not produce timber that is very valuable. Most of it is fairly low quality hardwoods.

The return over a long period of time for the Jefferson has been between 8 and 10 cents for every $1 spent. That is long-term return rate.

For the G.W., the 1982 figures were about 10 cents. The usual figures seem to be somewhere between 9 and 11. The Forest Service said in 1984 they did much better than that, and they had a balance sheet which said 46 cents on the dollar and I enclose that in appendix A because I think it is an example of bookkeeping that is somewhat creative.

It is a problem that if we get into an accounting system, we need to make certain that we are very careful who is in control of accounting.

The two forests after the description I have given came up with a conclusion I would not have expected. They said on the George Washington 85 percent of the land is suitable for timbering and we are going to greatly increase our timber harvest over a period of time.

On the Jefferson, they said 52 percent is suitable for timber, plus another 34 percent that might be cut for wildlife purposes. They also increased timber harvest over a period of time.

In my opinion, if Congress was trying to send a message in paragraph 6(k) to the National Forest Service that they ought to take economic considerations into account and that they ought to take physical considerations into account, I don't think that message was heard on those two national forests.

I believe it is necessary to have an accounting system; that we find some way to define what level of timbering and what acres are regarded as suitable, and I think that defining this in some economic terms would be very helpful. It is not the entire solution to better planning, but it would be a right step.

I would like to make certain, though, that the problems that are involved in land management planning are not simply incorporated into an accounting system. We have serious problems now in the planning process wherein the Forest Service claims there are these benefits that really make timbering worthwhile on both the Jefferson and the George Washington.

They believe that even with the poor return they are still justified in timbering, and there are—I have done some technical analysis in here exactly how that is done.

Basically, they define goals for management of wildlife, watershed management, the other aspects of managing the forests, with goals that are complimentary or that are supportive of increased timber harvests. The problem that I see is these goals are not particularly useful for managing these resources.

They are being created to support higher timber management goals. What I am trying to do is make certain that we cut this link so that the Forest Service does not claim to derive benefits and engage in what I regard as very distorted analysis.

We are getting bad management of these other resources. I believe if we had an accounting system that would separate out—much like the panel previous to ours suggested a rather narrow focus on timber basically supporting—paying its own way.

We could cut that link. As a landscape architect, I would like to just analyze in some detail one of those benefits that the Forest Service claims, visual quality objectives. And Mr. Clark mentioned very briefly they have a rather flowery description of how fir cutting large parts of the Jefferson and George Washington will provide benefits, and it is just not there.

Right now another clearcut in a valley nestled down will not create great visual harm, but in the long run, something else is going to be happening. Clearcut will pile up next to clearcut. And what we have out there right now is a context of a forest that is somewhere between 70, 80 years old.

If you have got a clearcut, you can still go around it. You have got plenty of forest that is still enjoyable, useable for recreation. After the land is put into intensive management, that context disappears, and what one has is a patchwork of clearcut areas.

I would like to show—just with the chart very briefly—what that will look like, and I have used the most typical land on the Jefferson National Forest, which is site index 60 for oak, that is going to be clearcut on 60-year rotations in the long run.

What one has is a pattern no matter how attractively designed by the landscape architects, eventually the land is going to be in this kind of checkerboard pattern, and there will be different ages. I put this on 10-year intervals, and you can see some 10, 60, 20, as well patterned as you can get with a road running through it.

Now, the long run implication of this needs to be seen in context of the size of the timber that will be produced on those areas. As you can perhaps see, what one has are stems that are going to range between just blush coming up and at 60 years the largest stem average is going to be 7.2 inches.

One will have patches that are basically going to be used for pulpwood. That is not the kind of area that anyone will find particularly interesting to visit for recreation. In other words, people are going to leave this area because it is simply not conducive to anything that we regard as useful recreation use.

Even hunters will discover that most of those areas are simply impassable. If you have seen clearcut areas in hardwoods when it gets sprouts that come up—10, 12 sprouts—and it takes decades until those sprouts begin to die back and you start to get something that is even physically passable.

As far as hunting is concerned, a lot of those areas are going to have game in it that you have to get dogs in there in order to get them out. It is going to change the nature of hunting that one would do, and I might say, yes, indeed, there will be lots more deer produced, but we have already got too many deer in western Virginia. That is not a benefit as far as we are concerned. It is the wrong animal.

What is in greater need would be more bear habitat. And this is going to, in effect, destroy bear habitat. I have got certain sections that the Forest Service engages in what I think is questionable analysis, and they say we are going to have more bear, but that has been disputed by highly reputable people.

I recommend an accounting system that basically separates out timber questions, timber economics, and in my opinion, there may be some benefits that come from some of these other areas. There may be some additional costs.

I would simply say instead of trying to do a very detailed analysis of that, simply say let the timber return 90 percent or 95 percent and give the Forest Service a 5- or 10-percent margin to distribute as they see fit. Let them make that decision. Let this length of profitability be fairly long, something like a planting period, so that they can make somewhat more rational economic decisions about when timber goes or if timber goes on the market.

I have also recommended some other changes that I think would be helpful for Congress to take into account to get better planting.

I appreciate very much this opportunity.

[The prepared statement of Mr. Loesel appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Loesel.

Mr. Smythe, I get the very distinct impression that you really wouldn't cut any timber in either the Nantahala or Pisgah or build anymore roads. Would that be an overstatement of your position?

Mr. SMYTHE. Yes; let me respond, though. I think that if I were David Stockman, that is exactly the position I would take, because on strict economic terms it does not make sense to cut additional—continue to cut timber from the Pisgah and Nantahala Forest at a loss.

However, we recognize that once a practice is in place and businessmen and local mills are dependent on a flow of timber, even if it is a low-cost flow, the cessation of timber harvesting would be a severe local shock.

I would simply argue that we do not need for any reason that I can think of to increase that subsidy and increase that dependence. I would argue, and we do argue in our analysis, that, as I said, on strict economic terms—actually, we didn't have to make the argument. The one computer model run that was conducted by the Forest Service in which they remove the constraint which they had placed on the model of cutting no less than a certain amount of timber—when they removed the constraint and let the model maximize net present value, it directed no timber sales.

Now, as I said, that is an economic argument. I would argue that one can consider other factors. But with regard to roads, I would say that it is our position that virtually all of the timber harvest that is now—that the entire level of timber harvest that is now being conducted on the forests—on these two forests could be conducted from areas that are now eroded and could be conducted more efficiently because the cost of additional roading would not be attributed to the timber harvest.

Mr. WHITLEY. You are answering my question, if I hear you right, the answer to the second question is yes, you would not build any more roads.

The answer to the first question is you would do a limited amount of timber harvest based strictly on economic considerations in a community that might be dependent on it. Is that the answer to my question?

Mr. SMYTHE. That is a fair——

Mr. WHITLEY. What sort of an economic formula would you use to arrive at the quantity of timber that was going to be harvested on that sort of a basis?

Mr. SMYTHE. Our recommendation after critiquing this plan was that the Forest Service limit timber harvesting to the existing level or somewhat below, that it concentrate those sales on areas that are now eroded, and that it obviously in doing so, select the most economically efficient timber sales, even though some of those—many of those will still be below cost, they will be far closer to a break-even point than——

Mr. WHITLEY. You say limit it to present levels.

Mr. SMYTHE. Yes.

Mr. **Whitley**. As long as you don't go over the present level, you would think that would sustain the economic viability of communities that might be dependent on it. Is that what you are saying?

Mr. **Smythe**. No; we don't have the detailed accounting that we are all asking for to look at individual timber sales. I would say as a first approximation——

Mr. **Whitley**. But you would not build anymore roads—we are talking about the 50-year plan now. You wouldn't build anymore roads. You would hold timbering to at least the present level, if not reduce it.

Mr. **Smythe**. It could be reduced in areas where the economy is not dependent on it. There is only one county in North Carolina that has more than a 5-percent dependence on timber from the national forest, yes.

We can maintain or even increase the timber harvesting in that area while reducing it in others.

Mr. **Whitley**. When you talk about the economic reliability to the community, are you talking about employment in a timber company primarily? Are you talking about tax revenues to the county? Payment in lieu of taxes? What are you really talking about?

Mr. **Smythe**. The first primarily, and also the second. The Forest Service's own analysis shows that the timber yields from the national forest in North Carolina are less than 10 percent of the timber market in——

Mr. **Whitley**. You do recognize that there would be some economic considerations in those two areas that ought to be taken into account.

Mr. **Smythe**. Yes.

Mr. **Whitley**. Mr. Clark, would you say the same? What would you have answered to those same questions about the Washington Forest in Virginia?

Mr. **Clark**. Mr. Chairman, the two issues I think we have already addressed in a proactive rather than reactive way. As in the case of the Jefferson Forest, the conservation community established two task forces which prior to the development of the draft management plan sat down with the Forest Service, with our best available experts on forestry, on economics, and proposed management strategies to the Forest Service during the planning process that they could consider.

Our plan for the George Washington, we called for the harvest levels to remain approximately the same.

Mr. **Whitley**. Did you build any new roads?

Mr. **Clark**. The new roads would have to be justified on—that were to be acceptable to us—would have to be justified on immediate need rather than some hypothetical future need.

Mr. **Whitley**. I don't mean to press you on this. But as a practical matter, can you conceive of any criterion under which they could justify a new road?

Mr. **Clark**. Honestly, Mr. Chairman, I would have to say no to that question.

Mr. **Whitley**. That is what I wanted to hear you say.

Mr. **Clark**. They have had their capital funding increase and at the same time——

Mr. WHITLEY. Fine; you wouldn't build any new roads and you would hold timber harvest at or below present levels for the same reason he just mentioned?

Mr. CLARK. That is a little—it would be vacuous to say that. Under the present circumstances——

Mr. WHITLEY. But that is the bottom line you get to.

Mr. CLARK. Right; well, that is the bottom line under the present circumstances, under the present funding of maintenance, under the present level of enforcement on forest roads, my professional involvement with wildlife is seeing injured animals in a veterinary capacity.

I see what happens to hawks and birds of prey and eagles, as in last week, that are shot by people, and there is no way that the enforcement levels can take place for illegal hunting, for littering, for the forest fires that have devastated our State.

They do not have the funding to meet the needs that have been created by this willy-nilly construction of roads. Until that changes, then I would have to say no new roads.

Mr. WHITLEY. No new roads. OK.

Mr. MORRISON. Thank you, Mr. Chairman.

Mr. Clark, again, I appreciated the testimony of everyone on the panel, but I got the feeling from your comments that we lose money on the management of public timber in your area.

Mr. CLARK. Yes.

Mr. MORRISON. While the private entrepreneur seems to be making money, otherwise he wouldn't harvest.

Mr. CLARK. I think that that is a fair statement.

Mr. MORRISON. Doesn't that set up a situation then in which we should question the management practices of that public land?

Mr. CLARK. That is my reason for being here, sir.

Mr. MORRISON. Is the public land that much poorer than the private land? Is that part of the problem?

Mr. CLARK. Well, I think, as has already been alluded to, the land that makes up the national forest is the land that was left over as a matter of default, land that was high graded, the best was taken, the worst was left, and the Federal Government came in and got what was left.

The way in which the timber is sited and harvested requires some sort of access to get it out if it is to be gotten out. On private lands, either the road system is already in place or the roads are built to the minimum level necessary to accomplish this specific purpose of harvesting the timber.

I think that my friends from the timber industry would concur that a timber company managing land for the production of wood fiber would not make a profit if they went at it under the management strategy put forward by the Forest Service.

Mr. MORRISON. Could we say that the same thing is true that if public lands that are there now were handled by private enterprise, that they would figure some way that they could harvest those crops?

Mr. CLARK. The notable difference there, sir, is the idea of multiple use, that when it is managed for a single use, the management theoretically is more efficient for that use. The private interests are not under the same constraints to either meet environmental or other types of considerations.

Mr. MORRISON. Thank you.

Mr. Chairman, since these gentlemen are Mr. Olin's constituents, let's maximize his time.

Mr. WHITLEY. Mr. Olin.

Mr. OLIN. Thank you very much, Mr. Chairman.

I would just like to ask the panelists one question. I would be interested in a response from each of you. Comė at this subject from a little different angle.

Under the law, the Secretary of Agriculture is required to categorize the forest as to suitable for timber production or not suitable for timber production. And he makes a statement along these lines.

It isn't too clear as to how he makes that decision. Most of you are in favor of timbering to some degree, I take it. How would you recommend that decision be made? If you were doing it, what would be the criteria that you would use to determine what areas were suitable for timbering and what were not?

Could each of you comment on that maybe starting with Mr. Smythe, relatively briefly?

Mr. SMYTHE. I will try. I think my statement at least pointed in that direction.

The problem is that we are not seeing the Forest Service distinguish within section 6(k) between lands physically unsuitable for timber, which is relatively easy for them to do, apparently, versus lands that are economically unsuitable.

That is a simple, in my view, test of whether——

Mr. OLIN. What do you mean by "physically unsuitable"?

Mr. SMYTHE. Lands that are physically unsuitable are lands that are very steep slopes or are inaccessible or high ridge tops or whatever, where the timber isn't there in terms of——

Mr. OLIN. What would be suitable for timbering?

Mr. SMYTHE. Lands that are suitable tend to be lands either on less steep slopes with more wood per acre than these other areas, land that has been managed so as to enhance the quality of the stand, land that yields a net economic benefit when it is harvested.

Mr. OLIN. Would you make a guess in your area as to what percentage of the land would be on those criteria suitable for timber production?

Mr. SMYTHE. Economically suitable, as well as physically suitable?

Mr. OLIN. Yes; suitable.

Mr. SMYTHE. Of the million acres on the Pisgah and Nantahala National Forest, probably less than 100,000.

Mr. OLIN. Ten percent?

Mr. SMYTHE. Yes.

Mr. OLIN. Could I move on to Mr. Clark just to make sure we cover this subject?

Mr. CLARK. The suitability question is one that I perhaps am not as well prepared to answer from a technical point of view since my background is not forestry. Clearly I think that within the context of the George Washington and Jefferson National Forests, the question would be are there other uses other than timber that are a more compelling and more cumulative net worth for these acres.

I think that would be question No. 1. Then as far as the physical criteria for the properties, I think we should totally avoid riparian zones. We should totally avoid steep slope—and I categorize that as anything with a 55 percent slope or greater.

We should totally withdraw any plans with a site index of less than 60. We should totally withdraw lands that have any potential for soil erosion or any question about regeneration.

There are a number of cuts that you have personally seen that regeneration is just not taking place.

Mr. OLIN. I haven't seen many like that.

Mr. CLARK. Well, then you didn't take the right tour. We will get you.

Mr. OLIN. Could I move on to Mr. Bostic on that one?

Mr. BOSTIC. Yes, sir; I would like to invite you to cross the mountain to see some that aren't.

Mr. OLIN. I might come and visit you.

Mr. BOSTIC. The soils, I think, are the basis of the forest and I think the Forest Service hasn't sufficient data on soils, particularly in our area, to base management decisions on.

Mr. OLIN. You would base suitability on the soil quality?

Mr. BOSTIC. The soil capability classification is the primary factor in the success of a forest, forest growth, in our part of the world.

Mr. OLIN. If you had good soil, fast growth, high site index, you would favor timbering there?

Mr. BOSTIC. Yes, sir; and providing that the land is not too steep. Of course, if there is steep land, you are going to have erosion problems and other problems that can't be tolerated.

But the public lands, I think, definitely need to be managed differently than the private lands. What we have in our part of the Jefferson National Forest are soils that derive from salurian shales and sandstones that are very poor. You occasionally have an outcropping of limestone that produces fairly deep fertile soils, but for the very most part, we are dealing with shales and sandstones, and the south sides of those ridges have been trying their best to produce a timber crop for the last 40 years and what you are looking at is the best they can do.

And the Forest Service has been managing them to produce timber. It is inconceivable for me to see that the Forest Service can say that they can remove that timber covering and create a better crop when they have had 40 years to do what they have done.

Mr. OLIN. What is your guess as to the percentage that should be timbered under your criteria and in the forest that you know?

Mr. BOSTIC. It varies tremendously by districts of the Jefferson. We are in one of the poorer ones. I suppose the Glenwood and the Clynch are the richest districts on the Jefferson.

In our part of the district, and in the Newcastle Ranger District, if you use economics as a constraint, you probably couldn't do any. I would regret to see that. I think that firewood cutting and pulpwood cutting are important part of our area's economy and I think that there is a market for both.

I think on lands that can produce without severe environmental damage, that ought to be pursued at certainly no greater levels we are presently doing.

Mr. **Olin**. OK; now we will give Mr. Loesel a crack at this because we have to leave here in about 1 minute.

Mr. **Whitley**. We will go vote now.

[Recess taken.]

Mr. **Olin**. Thank you, Mr. Chairman.

Mr. Loesel, would you like to comment on the question. And the question was, as I recall it, what criteria do you feel are appropriate in determining which land is suitable for timber production?

Mr. **Loesel**. I suggested in my written statement that I am ready to go with an economic determination, if you wish, an accounting determination, and again, I am willing to give a grace margin, something that Congress should decide.

It depends a little bit what kind of accounting system you set up as to how much grace margin. That would have a lot to do with how many acres out there would eventually be cut. But I have sort of given up on—I thought the Citizens Task Force recommendations—I mean, you could either hold the timber, harvest a constant, or go ahead and use the existing road network and use land productivity. I thought those were excellent ideas. The Forest Service just didn't pay any attention to that.

Mr. **Olin**. Do you think that it would be worthwhile having some more definite criteria established in law?

Mr. **Loesel**. Yes.

Mr. **Olin**. I don't believe we have any right at the moment except——

Mr. **Whitley**. Would the gentleman yield?

Mr. **Olin**. Yes, Mr. Chairman.

Mr. **Whitley**. I believe that some while ago, at least in the regulations, we had some biological criteria, and that was repealed or withdrawn. During the time that Mr. Cartee was assistant secretary, the determination was made that the criteria ought to be economic, and that is theoretically where we are now.

Is that not correct?

Mr. **Smythe**. Mr. Chairman, the biological criteria was to help determine whether land was physically suitable for timber. That is, whether it would actually grow any wood on it at all, and it is very low level. It was a very low level. I think 5 cubic feet per acre.

Mr. **Olin**. But the suitability for timber production is now a broader consideration, and it is pertinent here because it bears on where you might build roads to get at the timber to harvest it. You think it would be good to have a more definite criteria?

Mr. **Loesel**. Absolutely; my reason for coming to that conclusion is the system of land management planning right now, which is supposed to come up with a good plan having looked at the multiple-use implications of all of these things, including the physical suitability and all of those things, it is not working.

Mr. **Olin**. Thank you very much.

Mr. Chairman, I thank you and I would like to thank the witnesses that came. I think you gave good testimony and we got a pretty good idea of how you feel.

Mr. **Whitley**. Thank you very much, gentlemen.

Our next panel consists of Mr. Larry Cartee, assistant executive director, South Carolina Department of Wildlife and Marine Resources, Columbia, SC; Mr. Jerry Conley who is the director of

Idaho Department of Fish and Game from Boise, ID; and Mr. Carl R. Sullivan, executive director, American Fisheries Society, Bethesda, MD.

We welcome you gentlemen to our hearing.

As we have indicated previously, your full statement will be accepted for the record, and it will be printed in full and we invite you to summarize it for our purposes here and we will start with you, Mr. Cartee.

STATEMENT OF LARRY CARTEE, ASSISTANT EXECUTIVE DIRECTOR, SOUTH CAROLINA DEPARTMENT OF WILDLIFE AND MARINE RESOURCES

Mr. CARTEE. Thank you, Mr. Chairman, and members of the subcommittee.

I hope you said assistant executive director, because my boss is in Washington and I am the assistant, and our executive director is Jim Timmerman. I am appearing here on his behalf.

I am also appearing on behalf of the Southeastern Association of Fish and Wildlife Agencies and the International Association of Fish and Wildlife Agencies, two groups which we belong to and work very closely with.

As a State agency charged with responsibility for fish and wildlife resources, we are very involved with the national forest system in South Carolina and throughout the Southeast. Two of the primary forests that we deal with in our State are the Francis Marion and the Sumter National Forests.

The 35 national forests in the southern region 8 comprise about 12.5 million acres. While this is a small amount in comparison with the total system, these forests are important to hunting, fishing, nonconsumptive wildlife use, and therefore, the way the low-cost timber sales issue is discussed and resolved will affect a lot of these uses.

Rather than be repetitious, many of my statements, which I have submitted to you, have already been made today. We agree that the below-cost sales issue is tough to define. We do believe that economic considerations should be given in this consideration, noncommodity resources such as hunting, recreation, birdwatching, and other nonconsumptive uses, must be quantified and valued as this issue is considered.

We realize that wildlife values are hard to define. There is methodology being developed more and more every day. But we feel like it is very important that the noncommodity values be worked into the economic analysis to provide total resource benefits and give a more realistic view of cost/benefit relations.

The current land resources planning process as directed by the U.S. Forest Service is a methodology to produce alternatives on how to manage the forest. Within recent years, particularly in our region, this process has become of some concern to us, especially the way economic values for wildlife and related resources are handled.

Also, in the forest plans, the Forest Service does not recognize differences among recreation and wildlife values within the different administrative regions.

Wildlife professionals are concerned that since wildlife and fisheries are not realistically priced and assigned realistic values, land management planners do not portray any true analysis of these benefits. Therefore, we note how can the process assure that multiple use is followed and benefits are maximized unless these benefits are truly recognized.

One example that I may give to relate to this relates to the plans that are being drawn up now for the Sumter Forest and the Francis Marion National Forest where the resources and values and what-have-you have not been truly addressed. This has been done primarily at the expense of timber targets, and many of the timber targets have been established to produce the highest possible yields while at times minimizing the values for the wildlife and fishery and recreational resources.

Timber sales from the productive forest in region 8 are relatively profitable compared to the other forests throughout the Nation. We believe that excessive below-cost sales in some regions may have resulted in increased demands for timber in the Southeast.

For example, the 1980 RPA timber targets for most of region 8 have been far surpassed and it appears that pre-determined timber targets may be used to create decisions in forest plans. Our concern is if targets are set in the Southeast to subsidize these below-cost sales in another part of the country, then our sportsmen may not necessarily be getting a fair shake and we are just urging this be looked at as close as possible.

The philosophy that economic losses from timber sales are insignificant and are worthwhile in other regions because of other multiple-use benefits associated with logging and road construction is not acceptable in view of the below-cost sales that occur in some regions.

There is organizations like the GAO, the Congressional Research Service, the Wilderness Society and what-have-you, have all determined that a significant number of timber sales cost more to the agency than they return to the treasury.

However, we feel there are sufficient multiple-use benefits to possibly justify these sales, and we strongly encourage the Congress to urge the Forest Service to look at these total economic benefits and justifications, as it would be to the advantage of everyone to do so.

Mr. Chairman, basically our concern deals with the economic values and economic benefits of wildlife, we feel need to be integrated to the extent possible, into the forest planning process, and we feel like the nonconsumptive type resources need to have proper values so that it can be put into proper perspective.

Also we are concerned that some of the timber targets in the Southeast may be set on the basis of below-cost sales that occur in other regions.

Thank you.

[The prepared statement of Mr. Cartee appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Cartee.

Mr. Jerry Conley, director of the Idaho Department of Fish and Game. We are glad to have you, Mr. Conley, and we invite you to give us your summary.

STATEMENT OF JERRY M. CONLEY, DIRECTOR, IDAHO DEPARTMENT OF FISH AND GAME

Mr. CONLEY. Thank you, Mr. Chairman.

Like Larry, I am also a member of the International Association of Fish and Game Agencies, as well as maybe give you a little flavor of our viewpoint from the western directors' standpoint.

The expertise that I am going to offer today is not from a standpoint of one concerned about the definitions or trained in economics, but one in the trenches charged with providing hunting and fishing opportunities and protecting wildlife and its habitat in a State that is full of hunters and fishermen, all daily judging our performance as a department.

We are concerned about also, as a department, with having a viable timber industry that makes a profit for selfish reasons. Prosperous citizens buy hunting and fishing licenses and they join in volunteer restoration efforts. But these same prosperous citizens, live at least partially, in Idaho because of its fish and wildlife resource.

Below-cost timber sales can severely affect our ability to provide these hunting and fishing opportunities for Idahoans and nonresidents that come to Idaho for the quality hunting and fishing opportunities that our roadless areas have to offer.

I think that it is important to characterize maybe in contrast to some of the Eastern and Midwestern States a little bit about Idaho and give you a flavor of where we are coming from.

Mr. WHITLEY. Some of us expect to come out there right shortly, Mr. Conley. Go ahead.

Mr. CONLEY. That is good.

We have got about 38 percent of the State in Forest Service land, by contrast to some of the other figures like North Carolina I heard at 5 percent or so. Most of the hunted and nonhunted species are affected by actions on Forest Service lands whether or not they actually live on these Forest Service lands.

That is because, again by contrast, a lot of our critters are migratory in nature. Deer and elk who have to move from winter to summer ranges, and they are affected, of course, by siltation from streams. Species like salmon that travel in our case maybe 1,000 miles down to the ocean and back and have to be in good shape when they leave and they have to have good conditions when they come back.

From a timber harvest standpoint, the subcommittee has obviously heard a lot pro and con about the effects of timber harvest on wildlife. I am not going to spend a lot of my time on that topic except to say whether it is good or bad just depends on the species you are talking about, the timing of the sale, the soil types, the logging techniques.

Sometimes the guy with the bulldozer makes all the difference in the world. But generally, our big concern is not so much with the timber harvest, as it is with the road construction, and then the subsequent use and the maintenance of those roads.

Roads are a big part of many Idaho forest cost of doing business. The Nezperce, one of our forests in the northern part of the State, 46 percent of the 1980 budget was devoted to roads.

In Idaho, to give you an idea of how many people in the Forest Service are involved in roads. The best count is that there is 84 full-time engineers and 388 foresters, about 1 to 4½ ratio. So again, you have got a lot of folks that are concerned about road construction in the State working for the Forest Service.

Roads, obviously, from our standpoint, do represent a direct loss of habitat, not only for wildlife but for timber production. But they are mainly a people problem.

You improve the access, you increase the chances of illegal and legal harvest of big game. And that means, in turn, that we have got to reduce the length of the season to protect the herds or we have got to switch to a restrictive type of hunt like a bulls-only hunt. Then you end up with less hunting opportunities.

Our folks have grown up and liked the idea of a 60-day or a 30-day elk hunt. They don't like the idea of a 3-day elk hunt. And that is what happens when you get into road situations.

Sediment is a real problem, in some situations. I have mentioned that we have got streams in the State in which we have salmon.

One stream, particularly, that has had a real bad history of involving road construction is the South Fork of the Salmon River. It is one in which at one time produced 40 percent of all the summer chinook in the Northwest. A road blew out 20 years ago, and it is still only back up to about 55 percent of the normal habitat in the stream and way less than that in terms of the total number of fish.

The Forest Service response to our concern about these roads is, design bigger roads. Frankly, that has resulted again in more exposed areas and more silt.

So there is a very strong relationship between below-cost sales, I think, in roads for timber. I would like to mention just a couple points in that area.

First off, why are some of these sales below cost? We have been talking about the other side of it a little bit, but why are they below cost?

Part of it is the fact that some of the sales are sold on sites that are very poor sites. In essence, as you have heard earlier, the Forest Service is mining rather than thinning to meet quotas in some areas.

The cutting for benefits of wildlife on those sites, where you have already got quite a bit of open canape area, are highly questionable. What timber that is left there now is probably needed for wildlife; and generally, again, these sites that are causing part of these high costs are at high elevations and there are steep slopes.

Another thing I have heard other speakers today mention is road miles versus the timber volume ratio. That is pretty important from our standpoint as a management agency. We have examples of this.

The Forest Service puts roads deeply into unroaded areas, for whatever reason. Whether it is to preclude wilderness considerations or to provide primary access for later sales, it leads to a real bad impact on the entire length of the road.

I am not going to say that you can't have uncontrolled access roads and wildlife, because you can. The best example is Yellowstone Park. There is all kinds of elk in Yellowstone Park.

Elk are smart animals; they learn quickly, when they are not hunted, and roads don't bother them under those circumstances. But under normal, nonpark situations, those animals either learn and move back from the roads and don't use the road areas, or those that don't, get shot.

Unfortunately, the Forest Service seems to have gotten out of touch with the average guy in the street's view on roads and the effects it has on his or her hunting and recreational opportunities. The Forest Service is pushing multiuse benefits of roads.

Yet in 1975, for example, in Idaho, a University of Idaho survey of hunting license holders throughout the whole State showed that 75 percent of the residents wanted no more roads; 73 percent of the nonresidents said the same thing. Only 10 percent more in that survey said they actually wanted more roads. That was in 1975, and I am sure that it has increased since then.

So the department I guess believes that additional permanent roads in Idaho have few, if any, benefits and many detriments to fish and wildlife.

At a minimum, the Forest Service should cut the likelihood of below-cost timber sales by building minimum sized roads, by permanently closing those roads, by not adding to the maintenance cost, and close many miles of existing roads. In fact, we have asked the timber industry in our State, and with a favorable response, to join in this effort of closing roads by pointing out that there are just as many benefits on road closures to the timber industry as to fish and wildlife.

Multipurpose roads are a "Catch-22" situation. The Forest Service feels obligated to keep open multipurpose roads built with appropriated funds, while it would be much better to actually build these roads only for timber purposes at a minimum size and then close the roads.

If the Forest Service wants to continue the process of subsidization, they ought to consider using the same amount of dollars to subsidize aerial logging. In essence, if you are going to lose money to stabilize communities by aerial logging, you could do it in at least a situation which it wouldn't bother the habitat that is there for fish and wildlife.

Mr. WHITLEY. Let me stop you right there and ask you an interesting question.

Has anybody ever done any cost studies on aerial logging? You are talking about some real bucks there, aren't you?

Mr. CONLEY. Aerial logging is done to some extent in the State of Idaho. It has to basically be done fairly close to roads and has to be done with the high-quality timber, Big Yellow Pine or something like that.

But any distance, you start to run into an uneconomic situation. But on some critical sites, that is the only way to go.

One last point, and I have heard this mentioned again as I sat through the testimony today. The Forest Service does need to start using realistic values for wildlife, not the present RPA values.

In the written testimony that I have submitted, if you will look at the graph on page 7, I have listed three different values. One is a Forest Service value that was used in 1985 RPA values. And then next to that, I've got a list of a study that was done with ourselves as a department and with the Forest Service fully participating—in fact, sort of leading the charge on it—but it was ourselves, the Forest Service, the Corps of Engineers, and BLM. We came up with values that we feel like ought to be used. If you compare the Idaho study values with the 1985 RPA values, there is a terrific amount of difference.

I think I will stop right there, Mr. Chairman.

[The prepared statement of Mr. Conley appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you. Our final witness in this panel is Mr. Carl Sullivan, executive director of the American Fisheries Society, Bethesda, MD.

We will be glad to hear from you, Mr. Sullivan.

STATEMENT OF CARL R. SULLIVAN, EXECUTIVE DIRECTOR, AMERICAN FISHERIES SOCIETY

Mr. SULLIVAN. Thank you, Mr. Chairman.

I am here to talk about the fish. There are major implications, we feel, from below-cost timber sales for fish.

The American Fisheries Society is a 115-year-old organization of fisheries scientists and we, coincidentally, include all of the fisheries people who work for the Forest Service and other land management agencies. The policy that I hope to lay out today is based quite a lot on input from professionals who are actually with the Federal agencies involved in over-cost and below-cost timber sales.

As I said earlier, I do want to talk about fish. I also serve as a commissioner on the West Virginia Department of Natural Resources where I might report that the circumstances in Monongahela National Forest in West Virginia are very similar to what I have heard described for the Jefferson and the George Washington in Virginia. We have the same sort of a high percentage of below-cost sales.

I want to make four points, Mr. Chairman, that relate to fishery resources and the habitat and the fish themselves:

One, virtually every timber sale and subsequent harvest and road construction has an adverse impact on fisheries—virtually every one. Some, of course, that is an acceptable impact, but virtually all of them have some impact.

Two, the value of the public land fisheries resources impacted by timber sales in many instances is greater than the value of the timber. And in almost all instances, it is very great indeed.

Three, this is, in our judgment, the most critical factor here, the cost of fishing values lost and opportunities foregone has never been a part of the Forest Service or the BLM's cost/benefit ratio analysis. They do not consider the value of the lost fishery resources or the lost opportunities.

Four, in order to achieve a favorable timber sale cost/benefit analyses, we are extremely concerned that administrators may reduce environmental constraints or mitigation measures designed to protect fish and fish habitat.

That is one fault I had with the earlier described economic approach of analyzing these sales strictly on the timber value alone. If we relax the environmental constraints, if we do some of the things are possible for administrators to do, we may have a benefit. What appears to be a favorable cost/benefit ratio, in reality, is not.

I want to go through those four points quickly again, and start by rementioning the fact that virtually every timber sale and subsequent road construction and harvest has an adverse impact on fisheries resources.

Jerry Conley a moment ago mentioned the South Fork of the Boise. It is probably the classic example. A number of years ago, in order to get $14 million worth of timber, they spent more than that in millions of dollars to build the roads to get the timber.

The subsequent flooding and erosion problem that came from heavy rains shortly after that ill-advised cut destroyed a high percentage of the fishery in not only the South Fork of the Salmon, but the entire Columbia River. It is estimated by the Forest Service that the damage has been $100 million a year since then, all as a result of an ill-advised, below-cost timber sale.

The second issue, again, the value of public land fisheries resources impacted by timber sales is very great and, indeed, may be greater than the value of the timber. The Forest Service has estimated that there are 16 million man-days a year spent fishing on national forests, 16 million.

If we use only the figure, and that is a minimum figure that Jerry Conley was talking about, of the value of a day's fishing, that is about $475 million a year. That is quite a payoff from the national forest.

Now, that is the interest on the value of that fishery resource because it keeps coming every year, $475 million a year. If we earn 10 percent on the value of the resource, then the resource probably is worth 10 times that or $4.75 billion. We hate to see fishery resources valued that way, but it is an enormously valuable resource that is threatened by ill-advised timber sales.

There are 128,000 miles of streams in the national forest, and that roughly works to out to something like $2,400 a year each stream per mile generates to the economy, $2,400 a mile, that can be seriously jeopardized by ill-advised sales.

Again, the cost of fishing values lost and opportunities foregone are not considered in the timber sale cost benefit analysis done by the Forest Service. They do count in the mitigating measures. They count in what they can do to prevent the losses, but there are always subsequent losses and the amount of those losses are not included.

Finally, and I think this is a key point, in order to achieve favorable timber sale cost benefit analyses, we are concerned that administrators may reduce the environmental constraints or mitigation measures designed to protect fishery values.

Let me give you a few examples of how that might happen.

One, increasing the percent of a timber stand that is cut on each entry: In the Southwest they normally, in those dry areas, they say, We'll cut 18 percent of the timber when we go in this first time, build a road and cut 18 percent.

We look at the economics of it, it is not favorable. They say, well, if we cut 50 percent, it would be favorable. We spread it over the cost of the road, over more timber. But when you cut 50 percent, you really jeopardize the resource by vastly increasing the runoff, increasing the erosion, the sedimentation. You could blowout whole streams, as has happened many times.

Two, the ill-advised decision that is encouraged if we strictly go by present cost/benefit analysis is increase in harvest from riparian areas. Stream sides produce four times as much timber per acre as the dry slopes.

And so, the decision could be made, well, we'll take the timber from the riparian areas, from the stream side, we'll get more timber from a given percentage of the cut. And again, we have threatened the resource even more.

Third, reduction in road cost specifications are what we call a softening or deleting of developments designed to reduce sedimentation and other problems associated with land movement.

This alternative has great potential for adverse consequences to fisheries resources, especially in sensitive soils, because in marginal areas where the cost benefit may not be favorable, often it is the result of sensitive soils where the road should cost twice as much to accommodate the special circumstances rather than less. We are fearful that administrators may be tempted, in order to have a favorable cost/benefit ratio to relax their roadbuilding specifications rather than make them tougher.

Four, changing to lower-cost logging systems: There is an inverse relationship between lower cost logging equipment and techniques and higher rates of erosion. Erosion from tractor skidding is three times greater than for skyline logging. Below-cost sales may frequently be on slopes greater than 35 percent, and on these steep slopes, an administrative downgrading of logging systems to reduce cost could bring substantial increases in soil erosion.

Fifth, a related factor concerns the use of KV or Knutson-Vandenburg funds for reforestation and habitat improvement. KV funds are generated from profitable timber sales and timber receipts, and they are used often to mitigate fisheries resource losses and for revegetating logged areas. But below-cost sales generate no KV funds, and the Forest Service does not transfer such funds between forests.

Mr. Chairman, I think that sums up the views of the American Fisheries Society on this.

We very much appreciate being invited to give this testimony. We believe it is time that we stop subsidizing below-cost timber sales with sacrificed fisheries' values.

[The prepared statement of Mr. Sullivan appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you. Mr. Cartee, the two national forests you have in South Carolina, in Sumter and Francis Marion, both of them are either in the Piedmont or at the edge of the Coastal Plain, are they not?

Mr. CARTEE. Yes, sir, they are.

Mr. WHITLEY. They are softwood forests. They are not mountain hardwood forests like these others. I think all the others that have been mentioned in testimony today are probably mountain hardwood forests, and a lot of difference between them and the Piedmont or Coastal Plains softwood.

You don't really have any deficit sales problems, do you?

Mr. CARTEE. Not in South Carolina itself. There are some in the region that we are aware of, I think in some of the Appalachian areas.

Mr. WHITLEY. We had some testimony on those in my North Carolina forest.

Mr. CARTEE. Those are the only ones in the region that we are familiar with.

Mr. WHITLEY. The two that you mentioned in South Carolina, you really don't have any deficit sales?

Mr. CARTEE. No, sir.

Mr. WHITLEY. It is a problem that seems to be more peculiar to the mountain hardwood forest rather than the few forests that are Piedmont and Coastal Plain and have softwood harvest.

Mr. CARTEE. Yes, sir.

Mr. WHITLEY. Mr. Conley, I was sort of struck during the course of your testimony. I wonder if you would adhere to the same idea that was advanced by Mr. Smythe and Mr. Clark a little earlier. They quit where they were with the roads and maintained the timber harvest essentially at current levels.

How would that strike you?

Mr. CONLEY. Mr. Chairman, it is really hard to generalize like that, the whole State. There are some areas in the State that we have got good potential for additional development, and I see no reason why it should be curtailed. There are other areas that obviously there shouldn't be any, maybe any more road construction or timber harvested.

The key, to me, is that I think it is possible to have a viable timber community, which is what we need in Idaho for an economic base, and still have a good wildlife population. Congressman Craig and I have talked about that a lot. I think what is starting to happen is we are starting to sit down with the timber industry and we are starting to work out our differences.

One thing we all agree on is roads. I mean, there is no disagreement between the timber industry and ourselves, and you will find that out tomorrow, I think, on road construction. I am certain that Congressman Craig will back me up on that statement.

But we want minimum sized roads developed, and we basically want those roads eliminated after the timber sale takes place. I think that can be done in a lot of areas.

Mr. WHITLEY. Would you say that Idaho would probably be one of the better examples of where the timber interest is very important to you as are the wildlife and environmental considerations as well?

You probably have as much as a balance of those interests. However well they may be addressed, in Idaho both of them are very important. Would that be a fair statement?

Mr. CONLEY. Mr. Chairman, I have worked in several different States and grew up in Missouri and I have a feel for how important the natural resources are in the State of Idaho, and I know that it is one of the few States that fish and wildlife is on the front page of the paper practically every week. I mean, it is that important to us, and not only because people live there because of the fish and game resource, but because of the economic value. At the same token, timber is probably our second-biggest product in the State.

And so it is an area in which you have intense emotions. But again, frankly, I think those emotions are starting to accumulate in us all sitting down and working together on this issue.

Mr. WHITLEY. I have two or three questions that Mr. Stallings submitted to me and asked that I pose to you. Let me fish through my pile here and find them.

As I say, these were posed by Mr. Stallings, who earlier expressed regret that he couldn't be here today.

First, he says, "The main theme of your testimony focuses on the impact of roadbuilding on the subsequent use on fish and wildlife. Has your department quantified these impacts on any specific Federal timber sales in Idaho, and if so, what dollar values have you assigned to fish and wildlife resources potentially impacted by roadbuilding activities?"

Mr. CONLEY. Mr. Chairman, I think we have addressed that in our report. In the most recent information that is available, I think anywhere in the Nation on the economic value of wildlife is in this study that was done in connection with the Forest Service, as I mentioned earlier.

Second, we have sat down and taken a look at areas in which we have had lots of roads and areas in which we have had no roads and sort of areas in between, and we have looked at the populations of elk, for example, in those areas, and there is a correlation. We think that correlation is not so much with the timber cut, again, as it is with the miles of road that is involved.

Mr. WHITLEY. Second question: "Your department has not called for an immediate ban on all below-cost timber sales, but instead would suggest that guidelines be developed to evaluate cases where below-cost sales might be in the public's best interest. Has your department, or other State fish and game departments, given any thought as to what criteria should be used to develop these guidelines?"

Mr. CONLEY. Mr. Chairman, I think that, as I mentioned when I first started, our department is not full of economists. We don't have the time to sit down and talk a lot about what makes a good definition of a below-cost timber sale.

We are down there in the trenches, like Larry here, you know, answering questions every day. Our main thrust, basically, is good land management. Regardless of, in some ways, the economics that are involved, if the land can stand a timber harvest and it is not going to affect the other resources, then fine. It is a situation in which the timber probably should be put on some type of rotational system and the benefits derived for the community. That is the basic place we come from.

Mr. WHITLEY. His third and final question, he says, "You state in your prepared testimony the Forest Service budget is unrealistically low for fish and wildlife programs—about 4 percent of the total budget. Two questions: one, what costs have been included in your estimates, Forest Service fish and wildlife personnel or other mitigation costs; and, two what do you feel would be a more realistic share of the budget for fish and wildlife programs?"

Mr. CONLEY. Mr. Chairman, I mentioned earlier that the ratio is about 1-to-4 or 1-to-5 when it came to engineers versus foresters in the State of Idaho. That is even less. The ratio is about 1-to-7 or 1-to-8 when it comes to fish and wildlife personnel.

I think that, again, you can't generalize for the whole State, but I think that we have seen a trend in which the fish and wildlife folks on the forest have been reduced in numbers rather than stabilized or increased.

I think all we are wanting to do is to say, get enough personnel to do the job right. They don't represent a major portion of your cost when you are talking about 4 percent of the cost, and probably if you went to 6 or 7 percent you could pretty well take care of the problem.

So we are not talking about a great magnitude increase; it is just that we wanted to bring attention to the fact that it is actually going the other direction, that we are losing ground against some of the other professions in the State.

Mr. WHITLEY. Thank you, Mr. Conley.

At this stage, I want to recognize your Congressman, our very good friend and colleague from the State of Idaho, who has come to join us here at this stage of our hearing, Congressman Larry Craig.

Larry, would you like to have some questions or comments?

Mr. CRAIG. Let me only comment briefly. I apologize for being late for Mr. Conley and the rest of the panel's testimony, Mr. Chairman. Let me applaud you in your interest and this subcommittee's interest in what is and will remain a very critical issue, not just to public land States with large tracts of Forest Service land and timbered land, as is true of Idaho and many Western States, but nationwide. It is a concern.

When I first was elected to Congress, one of my concerns was and remains the tremendous costs and the impact of what I have viewed as overbuilding on the part of the National Forest Service in the roads systems on our forested lands. Much of what Mr. Conley says I would have to echo.

As Jerry and I find ourselves working closely together on some issues, we find ourselves a bit in the adversarial role on others, but we do, as Jerry mentioned, have one thing of common interest, and that is a balanced economy and a balanced approach toward our public land management. I think the ratios that Mr. Conley gave as to the number of engineers versus the number of resource managers we find on our Forest Service staffs in Idaho has been and continues to be of concern.

There is no question that when you fly the public forested lands of Idaho, one thing dominates the landscape in areas where logging has been a practice for some time, very substantial, visible road systems.

I have pushed hard in the last several years to get the Forest Service to respond to this growing problem. They have. We have seen drops in costs and the over-engineering of roads on a forest by forest basis. It varies depending on the interest of the particular supervisor of that forest. Therein lies the problem. Some don't quite have the stomach to tell the backshops that they are going to unemploy a few people, and others do. Austere policy is necessary.

We have below-cost timber sales in Idaho that are absolutely essential to the management of the resource. I am sure we have others that are very, very questionable as to whether the area should ever be entered.

I think Mr. Conley puts it well when he talks about Idaho's resource base. Our economy is timber on the public lands but it is also the wildlife resource and the management of that resource that is a major part of Idaho's economy.

So I am watching with great interest your subcommittee's efforts. I want to say, Mr. Chairman, that I am pleased you are willing to take the time to deal with this issue. You are even willing to come to Idaho this summer to look at some of our situations, and I greatly appreciate it. The western public lands, lands that are somewhat unique to the Nation depending on which side of the slope you reside and how much moisture you receive and what types of soil we are dealing with dictate the kinds of practices that ought to be practiced. You must see this first hand.

I am looking forward to being with you on that tour so we can see firsthand some positives and some negatives that I think demonstrate the need for this kind of overview.

That is the surface of the issue. I could go on a lot further about some of my own ideas about accounting procedures and how you spread costs and how you allocate costs to roads. But not at this time. There is something unique that a lot of people fail to recognize. Jerry recognizes it, but I say with a bit of humor, I think he would like to not recognize it.

Many of those who come to Idaho to recreate find their access to the public lands on those Forest Service roads that were once built for logging purposes. So the question is, how extensive are these roads to be and at what point do you limit them? Originally the law that somehow we have failed to ignore in the last two decades and the law that defines a road on the public lands speaks of them laying lightly.

I will tell you that if that is the definition, we have got an awful lot of heavy roads in Idaho that failed to recognize the mandate of the Congress years ago, when it saw the value of roads for accessing resources for utilization but it also saw the impact that they had on wildlife management and the environment.

I am pleased to have Jerry before this subcommittee to impart his interest and his knowledge as it relates to Idaho. And I look forward to working with you on this issue, Mr. Chairman.

Mr. WHITLEY. Thank you very much, Larry. I appreciate that contribution.

Mr. OLIN. Thank you, Mr. Chairman.

I think this testimony has been very, very informative and very interesting to me. I appreciate the opportunity to learn more about Idaho. I haven't been there for some time, but I hope to get back again.

I don't have any questions.

Mr. WHITLEY. Mr. Schuette.

Mr. SCHUETTE. Thank you, Mr. Chairman.

Thank you, gentlemen, for your fine testimony.

A question for Mr. Conley. You have stated both in your prepared text and your comments that roadbuilding is detrimental to the wildlife in your area. Does it have any benefit in wildlife management, in your opinion, sir?

Mr. **Conley**. Mr. Chairman, Congressman, I think that Congressman Craig alluded to the fact that there are a certain number of roads that are needed for a reasonable amount of access. Beyond that stage, frankly, roads don't offer any benefits that I can think of.

There is an occasional use of the road, if they are disturbed when they are constructed, which they obviously are, and then the roads are blocked off later. You do sometimes have some initial growthback on vegetation that provides some benefit to certain species.

But, by and large, there are not many benefits to a road when it comes to a wildlife standpoint.

Mr. **Schuette**. What suggestions do you have in addition to or beyond closure in terms of road management that you would suggest this subcommittee and the Forest Service to assess?

Mr. **Conley**. Congressman, certainly the need—there is sort of a fine line. What we would like to have is a road that size-wise does a job from a timber standpoint. In other words, a logging truck can get down and pick up the product and get out.

We would like to have that road designed in such a way that it minimizes the amount of silt that comes off of it. But I think that is the key to it; I think just the minimum sized road that is needed to do the job, and then that's it, and then that road, at that stage, should be blocked off and not used.

You will find 10,000 reasons—and you have heard some already today—as to why it should be used. But, frankly, it can be successfully blocked off on a permanent basis and it is not missed at all by anyone.

Mr. **Schuette**. Thank you, Mr. Conley.

Mr. Sullivan, what, in your opinion, environmental safeguards do we have that would minimize the environmental impacts on logging and timber sales?

Mr. **Sullivan**. There are quite a number of options. Don't overharvest. A stream channel has been set based upon the circumstances in the watershed, and if you disturb that by removing *x* percentage, and generally, it depends on the rainfall in the area, but if you disturb it by removing too much, you increase the surge that goes down in the heavy rain and the entire stream can be absolutely blown out, as many have been.

So we have one constraint that is very important, don't overcut and accelerate the runoff too great.

The roads, as Jerry has pointed out, are a major source—particularly if they are continually used after they are constructed—are a great source of runoff and erosion. And where roads are built on steep slopes, there is the constant potential for slides, where the entire bank will slide down into the waterway. Of course, silt, literally in these high-value, anadromous streams in the West in trout streams, silt will just literally destroy them.

So it is important to have roads designed to prevent erosion as much as possible and to prevent mass flooding—in other words, almost instantaneous flooding with the heavy rains, which happens without the vegetation to spread it over a period of time.

Mr. **Schuette**. The reason I ask these questions, I am a trout fisherman, even though I never catch many.

Mr. **Sullivan**. There are a lot of us like that, Congressman.

Mr. SCHUETTE. One final question. If you are assessing the natural habitat and the wildlife, are there more environmental safeguards from a public-force timber logging effort than a private industry doing it?

Mr. SULLIVAN. You mean, should we be tougher in regulating public land logging than private? Well, we don't have any handle on the private, generally. We probably shouldn't, no.

In my view, some of the logging practices on private land are far worse than they are on public lands, the same as I find in other land uses. I would like to do something about those two, but we don't have the handle on them.

Mr. SCHUETTE. Thank you for your time, gentlemen.

Mr. Chairman, thank you.

Mr. WHITLEY. Thank you, Mr. Schuette.

And thank you, Mr. Cartee, Mr. Conley, and Mr. Sullivan.

Mr. SULLIVAN. Thank you.

Mr. WHITLEY. Our final panel of the day is composed of Mr. James R. Lyons, the director of resource policy, the Society of American Foresters; and Mr. Ron Christensen, executive vice president of the Society of American Foresters; and Mr. Neil Sampson, executive vice president of the American Forestry Association.

I am told that Mr. Christensen is not here, and that you, Mr. Lyons, are the spokesman for the Society of American Foresters.

We welcome you, sir, here to our hearing and invite you to give us your statement.

STATEMENT OF RONALD R. CHRISTENSEN, EXECUTIVE VICE PRESIDENT, SOCIETY OF AMERICAN FORESTERS, PRESENTED BY JAMES R. LYONS, DIRECTOR, RESOURCE POLICY

Mr. LYONS. Thank you very much, Mr. Chairman.

I must apologize for Mr. Christensen, who, unfortunately, was called to the office and couldn't be here for the remainder of the hearing. So I will be pinch hitting for Ron this afternoon.

My name is Jim Lyons and I am director of resource policy for the Society of American Foresters, which is the national scientific organization representing the forestry profession in the United States.

I am pleased to have this opportunity to appear before you today to discuss the economics of Federal timber sales and SAF's study of below-cost timber sales on the national forests.

First of all, Mr. Chairman, let me commend you for your leadership in tackling this difficult issue. I don't believe that since the dispute that arose in the early 1970's over clearcutting in the national forests have the management practices in the 155 national forests received so much public scrutiny.

As in the clearcutting debate, resolution of the issue of below-cost timber sales could have a significant and lasting impact on the way in which Forest Service manages the 191 million acres contained in the National Forest System.

The forestry profession is very concerned about below-cost timber sales and the implications for forest management. SAF has closely followed the evolution of the issue, from the early criticisms raised by members of the Natural Resources Defense Council to reports that were generated by the General Accounting Office, the Congressional Research Service, the Wilderness Society, and the House Appropriations Surveys and Investigations staff.

SAF was pleased to see that last year, the Interior Appropriations Subcommittee, after drafting language to deal with the below-cost sales issue, decided to yield to your subcommittee the responsibility for assessing the nature and extent of below-cost sales, and to see to the problem of developing alternatives to address the issue.

We were also pleased to see that the subcommittee, through the series of hearings you have planned, intends to conduct a thorough and objective investigation of the issue in preparing its recommendations for the Appropriations Subcommittee.

The below-cost sales issue is extremely complex. As the reports that have already been published clearly demonstrate, the data that are currently available are inadequate to reach any easy solution.

For this reason, late last year SAF established a task force on below-cost timber sales to study the issue and make recommendations to our governing board as the basis for the profession's recommendations for resolving the issue. Our task force includes a diverse group of individuals who are knowledgeable of the issue and who represent the diversity of the profession.

You have before you a list of the members of the task force. The task force is chaired by Dr. Sally Fairfax, who is a professor of natural resources with the Department of Natural Resources, University of California, Berkely.

I won't go through the list of members, Mr. Chairman, but I will point out that the members include some of the authors of key studies that have already been presented to the Congress on the issue of below-cost timber sales. In particular, Mr. Alaric Sample, who, at that time, was a member of the Wilderness staff and published a report that has been mentioned several times today. It also includes Mr. Robert Wolf, who published a report of some renown for the Congressional Research Service; also, John Beuter, who you will hear from tomorrow. You will actually hear from all those individuals tomorrow.

Our task force is in the process of developing a draft report and plans to have the final product ready for review this fall.

Now, for this reason, I am unable to make any substantive remarks on the below-cost sales issue today.

However, our task force will address many of the questions raised in the hearing charter that you presented us, and intends to share the results of our analysis with the Congress and other interested parties at the earliest possible date.

I believe you will find the product of our deliberations both soundly based and particulary useful to your considerations. And I hope you will seek out and permit SAF to present the findings and recommendations of our task force to the Congress when they have completed their report. We expect to have that report available in late fall.

That ends my prepared remarks, Mr. Chairman. But I would like to take advantage of the opportunity, being one of the last panelists, if I may, to make some remarks based on some observations of the testimony that were presented today.

As reflected, I think, in Mr. Evans' remarks earlier this morning, we have been here before. The current controversy over national forest land management plans at its roots is not substantially different from the conflict that erupted over the last decade over clearcutting.

Though economics is the focus in the arguments and technical sophistication have increased, both arguments over forest management efficiency today and the clearcutting debate stem from a larger concern for perceived imbalances in Forest Service program emphasis. That is, that timber is being produced at the expense of other noncommodity resources.

Now, whether one shares this perception or not, I believe it is important to keep in mind, Mr. Chairman, as you alluded to in a question to one of the panelists, that concerns over forest management emphasis must be addressed both in terms of setting management policy, which is currently being done through the forest plans, and in the budget process.

I need not remind the members of the subcommittee that one of the congressional responses to the clearcutting issue of the early 1970's was the Forest and Range Land Renewable Resources Planning Act of 1974.

The 1974 act and its amendments contained in the National Forest Management Act of 1976 were intended to provide a framework for resolving conflict over the management of the Nation's forest lands.

It provided to do that by first of all requiring that an assessment of forest resource supplies and projected public demand for those resources would be prepared on a 10-year basis.

Second, a 5-year program was to be developed to set management direction and policy to meet public resource needs; and, finally, budget recommendations were to be developed to spell out how much money it would take to implement a multiple-use management program to meet public needs.

It seems to me, Mr. Chairman, that one thread that ran through the testimony today was the desire to view forest management objectives in a comprehensive way. That is, to provide an opportunity to question how much timber, fish and wildlife habitat, recreation, water, and forage should be produced by the national forests.

RPA is intended to do just that. The 1985 update to the RPA program was to be presented to the Congress several months ago, and it is long overdue.

I believe that this subcommittee should urge that the 1985 RPA program be presented to the Congress along with the President's statement of policy regarding how the Nation's forest land should be managed so that some of the questions raised today can begin to be addressed.

For example, the RPA could help to address questions related to how much timber should be produced and at what price from the national forests, what role private forest lands should play in relation to national forests in meeting the Nation's needs for timber, fish and wildlife, and other products of forest management. How much money should be invested in forest lands to meet different management objectives, and how much of that money should be invested in what programs; that is, how much money should be invested in roads, in improving fish and wildlife habitat, or in other programs.

Now, RPA will not resolve the below-cost sales issue. Perhaps it may cloud the issue rather than help to resolve it. But it can provide a means to tackle some of the questions related to national forest management objectives that were raised in today's hearing.

With that, I want to thank you, Mr. Chairman, Mr. Morrison, and the other members of the subcommittee, for the opportunity to appear before you today on behalf of the forestry profession.

[The prepared statement of Mr. Christensen appears at the conclusion of the hearing.]

Mr. **WHITLEY**. Thank you. Mr. Neil Sampson, executive vice president of the American Forestry Association.

STATEMENT OF R. NEIL SAMPSON, EXECUTIVE VICE PRESIDENT, AMERICAN FORESTRY ASSOCIATION

Mr. **SAMPSON**. Thank you, Mr. Chairman.

I am Neil Sampson, executive vice president of American Forestry Association, which is the national citizens organization for trees, forests, and forestry.

We are pleased to talk to you today about some of our views on the organization of the Forest Service's timber sale on the management program. We, along with SAF and many others, follow with great interest the below-cost timber sales on the management program.

We have, along with SAF and many others, followed with great interest the below-cost timber sales as members of American Forestry Association, both professionals and lay citizens, kept bringing the issue first to sort of a glimmering view and then to a full-blown constant fire on the issue. So much attention has been placed on it, which has been placed on the Forest Service's accounting process as part of this that Congress has, in fact, appropriated money for the Forest Service to improve their accounting, and we are looking forward to seeing that.

We think that the citizens of the country who are interested in forest management would be interested in seeing a better and more understandable accounting of costs and benefits. But we don't think a new accounting system is going to solve the problem, because we don't think it is really an accounting problem.

As a matter of fact, we are not too sure that the problem is one of below-cost sales and we are not too sure, even though there are certainly elements of it, that it is an overzealous roadbuilding program, either. Instead, we think what we have is a problem of agreement.

The American public simply does not agree on how the national forests should be managed. In places where we thought we had a consensus, there is a lot of evidence that that consensus has fallen apart. In places where we thought we had one, we may have never had one to start with.

We just don't have adequate agreement, it seems to us, on what those lands should produce for the public welfare and we therefore subject the Forest Service to sort of a bewildering array of demands which they try to solve by trying to grind through a very complex planning process and showing us a great many four-color maps and we still end up out the other side with a very divergent viewpoint on the part of the public as to whether or not a forest can produce more or less timber; whether it can produce more or less wildlife; whether it can stand more or less grazing; and whether or not it can do one or all of those simultaneously.

The demands that we see—many of the expectations that we see on the part of the public are not only in conflict, but they are hopelessly unreal; many of then exceeding the capacity of the forest in either a biological or a legal sense. So forests, like agencies, can't do everything for everybody and they can't be everything for everybody, but since these are everybody's forests, it is up to us to talk about that area of compromise and the area where our expectations need to come together and sort of grind on each other until we can reach the agreements that bring them not only into the best mix of outputs, but one which is realistic and practical as well.

So we think what is needed is not another computer system or another accounting system or another round of forest planning because those are just tools to help us understand if what is really happening out there is what it is we want. We think that the Congress at this point needs to take a very strong leadership in leading the way for the forging of a new social consensus about the use of the national forests.

The opinions we hear as people criticize below-cost sales, new roads, or new wilderness areas, on the other side, or draft forest management plans run such a broad gamut that it is very hard to bring them together and make anything sensible out of them.

We need to decide, for example, the extent to which we think the national forests should be a moneymaking, self-supporting operation. If one tries to take apart the current budget that we see coming out of this administration, you would get the implication that what we are in business to do out there is make money. There is, in fact, a great deal of downward pressure on the noncommodity, nontimber aspects of forest management.

Well, if the Congress tells the Forest Service to make money on the national forests, it is my judgment that they know how to do it. The clearcuts may be pretty large and they may be close to the road and there are going to be an awful lot of people awfully unhappy, but the place is going to make money. You tell them to put it in a wilderness area and they are able to do that, too. Now, it may not stay that way very long because fire, insects, disease, and other things don't seem to be as respectful of land-use boundary lines as some of the rest of us are supposed to be, but it will be a wilderness. Not much money is going to be earned out there, but some values that we prize very highly are going to be retained.

If, on the other hand, we are serious about multiple use and we really need to seek a balance between those tangible values and the intangible values that the public has entrusted into the keeping of the Forest Service, it seems to us that we need to be candid about the price that is involved. There are going to be some revenues foregone; there are going to be some costs incurred. We need to let the public in on those facts, try to get it to them in some kind of understandable terms and get them to at least support the idea that is the way it is and that that is all right.

I guess it only bothers us when we pretend we can have it both ways, when we pretend that we can, in fact, maximize revenues, maximize output and retain all the other values and not suffer some costs in the process.

We feel that multiple-use management, as it has been defined, is a foregone conclusion in the minds of the Congress and probably in the minds of our members and the minds of the American citizens. But we don't think there is very good agreement on how to get there, on what it is and how to get there. It seems to us that we just don't have a very good handle on how that goal can be achieved within the legal limits and the ecological limits that are imposed on every forest.

On that basis, Mr. Chairman, we really feel that the dialog in front of us is not one of accounting, and it is not one of planning; it is a political debate. There are social choices to be made, not technical ones now about those forests, and the question is what is best for the people, more people for longer; what is best for the economies of communities in timbered areas; what is best for fish and wildlife, as you heard earlier; where those come into conflict and what balances need to be struck. That is a political debate and one that is not going to be solved by the Forest Service computer, we feel.

We would like to help as a citizen's association move that debate forward, not coming to you with pat answers—certainly not, we hope, with any illusions about how easy that is, but with the strong sense that this nation has been sort of living on the capital of its natural resource base, certainly the forests, for some time, and that we need to take a very strong revisiting of the social objectives and our expectations as a Nation on our national forests.

We thank you for the opportunity to be here and would be happy to provide any subsequent assistance that we are able to.

[The prepared statement of Mr. Sampson appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Sampson.

You know, we really didn't go into these hearings with the idea of rewriting the National Forest Management Act, but you almost seem to be saying that is what we need to do, and I suppose some of the earlier witnesses might say that maybe we need to do a little bit better job of enforcing sections of it such as 6(k). But certainly I think those of us on the panel who sat through the testimony today would agree with a great deal of what you said, that it is not simply a matter of economics and it is not simply a matter of formulas and accounting systems, but it really is a political question of what we expect the Forest Service, as a custodian of our forests, to do. As a Nation, what we really expect them to do with them and I suspect you are right, that it is a far broader question than simply an economic one or one of accounting.

Mr. Morrison.

Mr. MORRISON. Mr. Chairman, I would like to concur in your comments to Mr. Sampson. We have been listening all day to how terrible the system is and I think you probably come closer to putting your finger on it—that is, trying to make the Forest Service and the management of these public lands be all things to all people and maybe we have reached the point in our history that things do need to grind together until we come up with a conclusion and then run the operation efficiently as opposed to continuing to pretend, as you say, that we can have it both ways.

I have to throw into the equation, Mr. Chairman, that I have spent 2 days this last week in Canada looking at their Timber Management Program. I went up there to get them to apologize for taking so much of our markets and came away shaking my head because they harvest the same amount of timber that we harvest from Forest Service lands, but do it with 10 percent of the people and 10 percent of the cost that we have in our Forest Service. So perhaps the time is right for us to consider a number of these factors and perhaps even consider some changes at this point in our history on handling this very, very precious natural resource.

I would like to mention to Mr. Lyons that I think their committee looks like it is well founded and I certainly would be enthusiastic about their report when it comes out. It probably blends in very nicely with what Mr. Sampson is saying to us, and the conflict that is being presented to us by the other people that have appeared here today. I am sure we will get more viewpoints tomorrow as we proceed.

Mr. Sampson, I notice in your written material that you also covered a number of the questions that were raised in the charter that was put forth and we will take time to go through those. I don't have any specific questions for you, but just to thank you for the excellent input—in fact, from both of you.

Mr. WHITLEY. Thank you, Mr. Morrison.

Mr. Schuette.

Mr. SCHUETTE. Thank you, Mr. Chairman.

Just briefly, gentlemen, thank you for your testimony. We have heard lots of different ideas and comments, some criticisms thoughout the day. I think that your testimony at the conclusion here is, I think, certainly thoughtful and also certainly reflective as we contemplate the great input we have had, so thank you for your thought-provoking conclusion and your good thoughts.

Thank you, Mr. Chairman.

Mr. WHITLEY. In conclusion, I would like to thank all the witnesses who appeared today. You brought us some very good information and testimony. I want to assure you that we are quite serious about our task, that we are not here just because this is the way we like to spend our time. We are really concerned about this matter and we intend to go forward with it.

I also want to express my appreciation to the members of the subcommittee for the interest that they have shown and the subcommittee stands adjourned until tomorrow morning.

[Whereupon, at 4:35 p.m., the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

THE WILDERNESS SOCIETY

STATEMENT OF PETER C. KIRBY, THE WILDERNESS SOCIETY, BEFORE THE U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON AGRICULTURE, SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY, JUNE 5, 1985

Mr. Chairman, I am Peter Kirby, Senior Counsel of the Resource Planning and Economics Department at The Wilderness Society. I am pleased to appear before you on behalf of the The Society's 140,000 members to discuss the economics of federal timber sales.

Since its inception, The Society has maintained a particularly strong interest in our national forests. Indeed, two of The Society's founders, Aldo Leopold and Robert Marshall -- leading conservationists of their time -- were Forest Service officials. Today, as we mark our 50th anniversary, we have 18 full-time, professional staff members -- foresters, lawyers, economists, ecologists, and other conservation specialists -- working on national forest management issues. In particular, we are analyzing draft forest plans, working with local conservationists to increase public participation in Forest Service decision-making, undertaking a detailed two-year study of the nation's largest national forest -- the Tongass in Alaska -- and developing new ideas for the future use and management of the national forests.

My statement today seeks to:

- -- briefly review the findings of major studies on Forest Service timber economics,
- -- report on the shortcomings of 50-year forest plans now being prepared and issued by the agency,
- -- discuss the elements for a reliable timber program accounting system, and
- -- provide specific recommendations for new policies to guide timber harvesting on the national forests.

Timber Economics On The National Forests

Since its establishment at the turn of the century, the Forest Service has traditionally shunned the use of economic criteria in guiding its planning and management decisions. Today the Service does not track the costs and receipts of individual timber sales on the national forests. Detailed 50-year forest plans now being promulgated allocate millions of acres to logging that is essentially worthless for that purpose. Moreover, the agency continues to rely on its obsolete "residual pricing system" that yields a minimum price for timber, assuring a profit for the purchaser, without taking into account the government's cost of growing and selling the commodity.

The Forest Service's disregard for the economic consequences of its management decisions has been roundly criticized, with major shortcomings well-documented. Many public land management experts have questioned the Service's lack of sensitivity to society's interest in cost-efficiency. Dr. Marion Clawson -- a distinguished public lands policy scholar at Resources for the Future -- reached the following conclusion: "[E]xpenditures for timber management are being made in regions, on forests, and on sites where timber values are so low that the areas should be abandoned for timber growing purposes. Other outputs of these forests may be worth managing, and existing stands of trees may be valuable for this purpose, but the growing of more timber is not economically sound" (Clawson, 1976, p. 765).

Others have reached similar conclusions. Environmentalists, congressional investigators, university economists, and the Forest Service have conducted evaluations of the receipts and expenditures of the timber program on the national forests. These studies cover different time periods and use several methodologies, therefore producing some discrepancies in bottom-line totals. However, all of the results clearly show that the Forest Service regularly sells public timber at prices below the cost of production.

In 1980, the Natural Resources Defense Council issued a significant report documenting that timber sales on over half of the national forests did not recover the costs of timber management and reforestation from 1974 through 1978 (Barlow et al., 1980). After release of the Council's study, the Forest Service admitted that in 1978 -- a year of high-priced timber -- at least 22 percent of national forest timber was sold below cost (Cutler, 1980, p. 35). Also in 1980, Dr. William Hyde, a professor at Duke University, used 1976 data to analyze the economics of timber management in Colorado's San Juan National Forest. He concluded that "no profit-oriented owner would bother to cut down the trees... [and] ...the appropriate role of the Forest Service in the San Juan National Forest is not timber management, but de facto wilderness management" (Hyde, 1981, p. 71).

In the summer of 1984, The Wilderness Society published a detailed study that documented the extent and the geography of below-cost timber sales. For 1982 -- a year of below-average timber prices -- the report found that 97 national forest administrative units failed to earn timber receipts equal to or greater than costs, with losses totaling over $200 million (Sample, 1984, p. 11). The greatest number and magnitude of timber sale losses were concentrated in the Rocky Mountain states and in Alaska. (Attached is Appendix I from the study with a forest-by-forest analysis of timber sale receipts and costs.) The Wilderness Society study also analyzed data for 1978 and 1983, determining that the extent of overall losses is much smaller in a period of more favorable economic conditions -- such as 1978 -- but that the geographic distribution of below-cost timber sales remains about the same. In 1984, the Congressional Research Service concluded that national forests in 22 states consistently did not recover their costs of timber production from 1973 through 1983. CRS estimated a minimum deficit of $1.6 billion accumulated over the 11-year period (Wolfe, 1984).

Most recently, the U.S. General Accounting Office (GAO, 1984) examined 3,244 national forest timber sales in four western regions, comparing costs and receipts on a sale-by-sale basis. Overall, costs were shown to have exceeded revenues on 27 percent of the 1981 timber sales at a loss of $64 million and 42 percent of the 1982 sales at a loss of $92 million. The GAO found that "in two Rocky Mountain regions, which had at least 60 percent of their timberland classified as low productivity land and which accounted for only about 7 percent of the Forest Service timber volume sold, over 88 percent of the sales were below cost in 1981 and over 96 percent were below cost in 1982" (p. ii).

In response to findings by its critics, in testimony before Congress, and in its Annual Reports, the Forest Service has corroborated many of the conclusions of these studies. The Forest Service has reported that it sold 37 percent of national forest timber in 1983 at prices less than costs (U.S. Forest Service, 1984, Annual Report for FY 1983, p. 91). In four administrative regions covering Alaska, much of the Rocky Mountains, and parts of the eastern states, the Service admits selling 74 percent or more of the timber below cost. In response to requests from the Surveys and Investigations Staff, U.S. House Committee on Appropriations, the Forest Service estimated that 26 percent of its timber sold at a value below cost in 1984 (Surveys and Investigations Staff, 1985, p. 19). (Also, attached is a Nov. 14, 1984 Wall Street Journal article by Emerson, Stout and Kloepfer summarizing the findings from those studies.)

Forest Planning

The Forest Service is now in the process of producing detailed 50-year land management plans for the entire 191 million-acre National Forest System. In response to the concerns of Marion Clawson and others about uneconomic timber management on the national forests, Congress specifically directed the Forest Service to identify lands in its plans that are unsuitable for timber management based on physical and economic factors. Section 6(k) of the 1976 National Forest Management Act (NFMA) provides that:

> "In developing land management plans pursuant to this Act, the Secretary shall identify lands within the management area which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible, as determined by the Secretary, and shall assure that, except for salvage sales or sales necessitated to protect other multiple-use values, no timber harvesting shall occur on such lands for a period of 10 years" [emphasis added].

Our review of NFMA forest plans, however, has revealed that the Forest Service is not faithfully implementing Section 6(k) to serve the purposes intended by Congress. The Wilderness Society is undertaking an intensive examination of 14 draft forest plans from across the nation (see attached map). These forest plans were selected because of the huge amount of wildland involved, geographic distribution and key NFMA issues at stake, such as timberland suitability. To date, we have completed our review of draft forest plans for the following national forests: White Mountain, Cherokee, Beaverhead. We are now working on the Clearwater National Forest. We are also appealing final forest plans - the San Juan and Grand Mesa in Colorado and the Chugach in Alaska - that involve the adequacy of 6(k) review. Our experience has shown that the implementation of Section 6(k) is seriously - and illegally - flawed in the following major respects:

1) The forest plans do not identify which lands are economically suitable for timber production based on a comparison of expected timber receipts and costs. Instead, the so-called "present net value" analysis used for determining economic suitability lumps together all multiple-use considerations and thereby hides from the public, Congress, and Forest Service decisionmakers the exact extent to which lands allocated to timber production are economically unsuitable.

2) The forest plans allocate as much land as suitable for timber management as is needed to meet the timber harvest goals selected for the plan. Under this "top-down" approach to planning, the Forest Service presses land into timber management in order to meet high timber harvest goals even though it may be uneconomic. Thus, Section 6(k) is essentially rendered meaningless in forest planning. The result is that the agency issues plans like the one for the Chugach National Forest calling for a sixfold increase in timber harvest levels even though the forest recovers only one cent on every dollar spent on timber management.

3) In addition to the generic flaws mentioned, some forest plans significantly overestimate future timber prices and underestimate projections for future timber costs. Thus, the present

net value analysis is inaccurate and skewed towards determining too much land as economically suitable.

With respect to timber economics, our review of draft forest plans supports the following conclusion: The Forest Service is proposing excessive road construction and unnecessarily wide dispersal of logging activities across public forest lands. The strategy of logging too much land - most of which is economically marginal - is deeply ingrained in the Forest Service system, resulting in unwanted environmental disruption and a disincentive to private sector forestry.

Timber Program Accounting System

As a result of the controversy surrounding below cost timber sales and the inability of the Forest Service to provide standard accounting data on its timber program, Congress in its FY 85 appropriations provided the agency $400,000 to develop a timber sale cost accounting system.

The Forest Service is currently developing a new accounting system. However, there are indications that the Forest Service is trying to find ways to continue to overstate timber benefits and understate timber expenditures. In the Report of the Forest Service, Fiscal Year 1984, for example, Table 25 (p. 82) reports that the 1984 timber program produced 148,000 animal unit months (AUMs) of grazing, valued at $10.81 per AUM (U.S. Forest Service, 1985, p. 82). Yet, under the Public Rangeland Improvement Act, the Forest Service charges ranchers only $1.37 per AUM. In 1984, "free use" fuelwood is valued at $131 per thousand board feet in Alaska compared to actual cash payments of about $7 per thousand board feet for national forest timber harvested by commercial timber buyers in Alaska. Furthermore, all roadbuilding and engineering support expenditures are excluded from the Forest Service's estimate of the cost of producing timber.

In our view, the Forest Service should implement an accounting system that provides actual timber receipts and expenditures for each national forest. Timber receipts are the sum of actual cash payments for timber harvested plus the cash value of purchaser-built roads. Timber expenditures on the national forests are divided into two categories: annual operating expenses and capital expenses. These expenditures, in turn, may be either direct timber expenditures - activities that are entirely attributed to timber - or joint expenditures - activities that can be attributed to other forest uses as well as timber. Capital costs for road building and other multi-year assets should be amortized over the useful life of the asset. Joint costs should be distributed among various forest outputs using reasonable allocation criteria that remain constant over time. The difficult task of dealing with non-market benefits and costs of multiple use forest management should not be used to confuse timber receipts and expenditures in an accounting framework.

At present, there is no systematic accounting data to support the Forest Service allegation that "each year the value of timber sold from the national forests exceeds timber sale costs." In fact, analysts at The Wilderness Society estimate that during the period 1975 to 1984, Forest Service timber-related expenditures exceeded receipts by $2.1 billion. (Emerson et al., 1984).

Recommendations For A New Direction

The Wilderness Society urges the Subcommittee to help re-direct Forest Service timber policy in a manner consistent with fundamental, long-term economic and social forces now at work. Our specific recommendations are:

(1) Congress should insist on the balanced, multiple-use management required by the National Forest Management Act and other laws. Timbering must not be emphasized at the expense of recreation, wildlife, watershed, and other uses. Forest Service timber policy should encourage a permanent transition from mining virgin timber stands on the national forests to commercial timber farming on privately-owned land. Timber harvesting on the national forests should be viewed as supplemental to timber growing on more productive private lands. With substantially less emphasis on logging, the national forests will be available to provide increasingly scarce ecosystem diversity and other non-market services which are not often provided by the private sector.

(2) Congress should insist on a systematic phasing out of below-cost timber sales on the national forests over time. Only

if there is a demonstrated, over-riding benefit to other forest uses should below cost timber be cut. The Forest Service should stop relying upon its obsolete residual pricing system that yields a minimum price without taking into account the federal government's costs of growing and selling trees. Instead, the Forest Service should establish a minimum selling price that is the higher of either the appraised value of the timber based on the residual pricing system or the Forest Service's full costs associated with making the sale.

In the individual forest plans currently under preparation, the Forest Service should identify national forest lands that have the potential for sustained timber production based on a careful comparison of expected timber receipts and costs. Such evaluation must consider differences in tree species, site productivity, management practices, road access, regeneration success, and measures to protect the environment. Only those national forest lands yielding positive net timber receipts over a minimum of two harvests should be identified as economically suitable for commercial timber production. The end product of the evaluation, to be conducted every ten years as part of the on-going forest planning process, will be a division of national forest lands into two categories: land economically suited for timber production on which expected timber receipts exceed costs, and land economically unsuited for timber production on which expected timber receipts are less than costs. Timber management and harvesting would not be planned on lands economically unsuited for commercial timber production. Waivers to this rule pursuant to Section 6(k) would be permitted only if the Forest Service demonstrates that tangible, non-timber benefits of logging and road building outweigh both taxpayer losses and negative environmental impacts.

(3) Congress should insist on a timber program accounting system that carefully documents quantifiable timber receipts and expenditures, including road costs. The accounting system should not include multiple-use benefits claimed from timber sales and roads. Congress and the public need a clear statement forest-by-forest of the economics of the timber program on its own. Economics is not to be the sole criterion for making budget and other policy decisions; rather the over-riding consideration continues to be sound multiple-use management for the benefit of the American people. An accounting system such as we have urged will help identify the economics of the timber program more clearly than in the past and make it possible to factor economics more solidly into decisions about our national forests.

Literature Cited

Barlow, T.J., et al., 1980. Giving Away the National Forests: An Analysis of U.S. Forest Service Timber Sales Below Cost. Washington, D.C., Natural Resources Defense Council.

Clawson, M. 1976. "The National Forests: A Great National Asset is Poorly Managed and Unproductive," Science, Vol. 191, pp. 762-67.

Cutler, M.R. 1980. "Timber Giveaway - A Dialogue," The Living Wilderness, Vol. 44, pp. 34-39.

Emerson, P.M., et al., 1984. "Wasting the National Forests: Selling Federal Timber Below Cost." Washington, D.C., The Wilderness Society.

GAO. 1984. Congress Needs Better Information on Forest Service's Below-Cost Timber Sales. RCED-84-96. Washington, D.C., General Accounting Office.

Hyde, W.F. 1981. "National Forest Logs Red Ink for Treasury." The Wharton Magazine, Fall 1981, pp. 66-71.

Sample, V.A. 1984. "Below-Cost Timber Sales on the National Forests," Issue Brief. Washington, D.C., The Wilderness Society.

Surveys and Investigations Staff. 1985. Selected Aspects of the U.S. Forest Service Timber and Road Construction Programs. A Report to the Committee on Appropriations, U.S. House of Representatives.

U.S. Forest Service. 1984. Report of the Forest Service, Fiscal Year 1983. Washington, D.C., U.S. Department of Agriculture.

U.S. Forest Service. 1985. Report of the Forest Service, Fiscal Year 1983. Washington, D.C. U.S. Department of Agriculture.

Wolfe, R.E. 1984. "State-by-state Estimates of Situations Where Timber will Be Sold by the Forest Service at a Loss or a Profit." Memorandum report to the Honorable Sidney Yates, Chairman, Subcommittee on Interior Appropriations. Washington, D.C., Congressional Research Service, Library of Congress.

(Attachments follow:)

APPENDIX I
TIMBER COSTS AND RECEIPTS ON THE NATIONAL FORESTS AND REGION, FY 1982

Forest	Timber Costs			Estimated Timber Receipts[3]	Net Timber Receipts	Ratio of Timber Receipts To Costs
	Management[1]	Roading[2]	Total			
Region 1	--------------------Thousands of Dollars--------------------					
Beaverhead	1,340	1,067	2,407	146	-2,261	.06
Bitterroot	2,191	911	3,102	1,062	-2,040	.34
Panhandle	8,903	5,692	14,595	12,152	-2,443	.83
Clearwater	5,254	4,827	10,081	2,627	-7,454	.26
Custer	248	298	546	20	-526	.04
Deerlodge	1,303	760	2,063	141	-1,922	.07
Flathead	5,252	3,502	8,754	5,214	-3,540	.60
Gallatin	1,496	1,262	2,758	168	-2,590	.06
Helena	1,314	1,131	2,445	410	-2,035	.17
Kootenai	7,802	6,726	14,528	8,768	-5,760	.60
Lewis and Clark	807	930	1,737	35	-1,702	.02
Lolo	5,045	4,667	9,712	1,660	-8,052	.17
Nezperce	3,214	4,240	7,454	1,796	-5,658	.24
Regional Office Admin.	7,325	-	7,325	-	-7,325	-
Total: Region 1	51,494	36,013	87,507	34,199	-53,308	.39
Region 2						
Bighorn	818	864	1,682	24	-1,658	.01
Black Hills	4,139	3,217	7,356	601	-6,755	.08
GMUG	1,689	1,435	3,124	123	-3,001	.04
Medicine Bow	1,634	2,055	3,689	66	-3,623	.02
Nebraska	25	-	25	-	-25	.00
Rio Grande	1,507	3,352	4,859	103	-4,756	.02
Arapaho-Roosevelt	1,007	1,672	2,679	232	-2,447	.09
Routt	1,204	2,530	3,734	228	-3,506	.06
Pike-San Isabel	1,023	337	1,360	299	-1,061	.22
San Juan	1,373	1,576	2,949	82	-2,867	.03
Shoshone	560	361	921	51	-870	.05
White River	816	832	1,648	128	-1,520	.08
Regional Office Admin.	2,500	-	2,500	-	-2,500	-
Total: Region 2	18,295	18,231	36,526	1,937	-34,589	.05
Region 3						
Apache-Sitgreaves	2,967	1,666	4,633	4,443	+190	.96
Carson	1,319	654	1,973	305	-1,668	.15
Cibola	546	1,054	1,600	200	-1,400	.12
Coconino	2,187	738	2,925	2,490	-435	.85
Coronado	134	-	134	39	-95	.29
Gila	1,150	608	1,758	38	-1,720	.02
Kaibab	1,701	1,404	3,105	2,653	-452	.85
Lincoln	645	273	918	52	-866	.06
Prescott	250	18	268	30	-238	.11
Santa Fe	1,636	1,116	2,752	462	-2,290	.17
Tonto	512	176	688	40	-648	.06
Regional Office Admin.	3,376	-	3,376	-	-3,376	-
Total: Region 3	16,423	7,707	24,130	10,752	- 13,378	.44

APPENDIX I: (continued)

Forest	Timber Costs			Estimated Timber Receipts[3]	Net Timber Receipts	Timber Receipts To Costs
	Management[1]	Roading[2]	Total			
Region 4	------------------thousands of dollars-------------------					
Ashley	576	666	1,242	111	-1,131	.09
Boise	3,764	2,173	5,937	810	-5,127	.14
Bridger-Teton	1,077	632	1,709	269	-1,440	.16
Caribou	588	376	964	116	-848	.12
Challis	230	162	392	43	-349	.11
Dixie	1,289	1,056	2,345	49	-2,296	.02
Fishlake	305	249	554	7	-547	.01
Humboldt	35	-	35	1	-34	.03
Manti-LaSal	251	271	522	40	-482	.08
Payette	2,722	2,982	5,704	1,394	-4,310	.24
Salmon	1,922	1,539	3,461	340	-3,121	.10
Sawtooth	766	1,066	1,832	191	-1,641	.10
Targhee	2,437	1,657	4,094	410	-3,684	.10
Toiyabe	411	56	467	192	-275	.41
Uinta	231	118	349	42	-307	.12
Wasatch	923	738	1,661	160	-1,501	.10
Regional Office Admin.	3,788	-	3,788	-	-3,788	-
Total: Region 4	21,315	13,741	35,056	4,175	-30,881	.12
Region 5						
Angeles	70	-	70	22	-48	.31
Cleveland	55	-	55	20	-35	.36
Eldorado	2,694	5,008	7,702	8,792	+1,090	1.14
Inyo	601	90	691	54	-637	.08
Klamath	9,203	5,857	15,060	14,591	-469	.97
Lassen	3,760	1,577	5,337	19,133	+13,796	3.58
Los Padres	111	-	111	22	-89	.20
Mendocino	2,617	2,005	4,622	1,890	-2,732	.41
Modoc	1,644	1,147	2,791	2,522	-269	.90
Six Rivers	5,117	7,152	12,269	11,908	-361	.97
Plumas	5,006	4,184	9,190	8,000	-1,190	.87
San Bernardino	579	34	613	218	-395	.36
Sequoia	2,559	6,133	8,692	1,700	-6,992	.20
Shasta-Trinity	6,456	3,449	9,905	9,927	+22	1.00
Sierra	2,984	4,393	7,377	1,526	-5,851	.21
Stanislaus	3,645	3,415	7,060	3,910	-3,150	.55
Tahoe	3,633	2,006	5,639	4,420	-1,219	.78
Lake Tahoe Basin	149	6	155	35	-120	.23
Regional Office Admin.	9,568	-	9,568	-	-9,568	-
Total: Region 5	60,451	46,456	106,907	88,690	-18,217	.83

APPENDIX I: (continued)

	Timber Costs			Estimated	Net	Timber
Forest	Management[1]	Roading[2]	Total	Timber Receipts[3]	Timber Receipts	Receipts To Costs
Region 6	----------------thousands of dollars------------------					
Colville	2,556	4,378	6,934	2,183	-4,751	.31
Deschutes	5,436	1,860	7,296	11,699	+4,403	1.60
Fremont	3,364	6,110	9,474	10,049	+575	1.06
Gifford Pinchot	6,970	10,576	17,546	28,112	+10,566	1.60
Malheur	3,395	4,692	8,087	9,889	+1,802	1.22
Mt. Baker-Snoqualmie	4,473	17,229	21,702	18,479	-3,223	.85
Mt. Hood	6,708	13,932	20,640	34,877	+14,237	1.69
Ochoco	2,672	3,193	5,865	7,286	+1,421	1.24
Okanogan	1,910	2,433	4,343	1,684	-2,659	.39
Olympic	5,561	11,146	16,707	10,267	-6,440	.61
Rogue River	4,900	6,885	11,785	21,978	+10,193	1.86
Siskiyou	5,693	20,448	26,141	22,613	-3,528	.86
Siuslaw	6,633	9,610	16,243	42,228	+25,985	2.60
Umatilla	3,415	4,310	7,725	4,058	-3,667	.52
Umpqua	5,416	18,673	24,089	41,615	+17,526	1.73
Wallowa-Whitman	4,921	4,259	9,180	3,883	-5,297	.42
Wenatchee	2,680	5,538	8,218	4,705	-3,513	.57
Willamette	10,144	32,113	42,257	76,653	+34,396	1.81
Winema	3,427	1,393	4,820	18,549	+13,729	3.85
Regional Office Admin.	16,221	-	16,221	-	-16,221	-
Total: Region 6	106,495	178,778	285,273	370,807	+85,534	1.29
Region 8						
Alabama	2,251	1,565	3,816	5,299	+1,483	1.39
Daniel Boone	1,113	1,576	2,689	432	-2,257	.16
Chattahoochee-Oconee	1,866	1,315	3,181	2,357	-824	.74
Cherokee	1,208	1,876	3,084	720	-2,364	.23
Florida	2,454	1,185	3,639	6,269	+2,630	1.72
Kisatchie	2,915	1,499	4,414	10,366	+5,952	2.35
Mississippi	3,952	1,475	5,427	21,143	+15,716	3.90
George Washington	1,256	2,389	3,645	357	-3,288	.10
Ouachita	6,529	2,483	9,012	12,637	+3,625	1.40
Ozark - St. Francis	1,652	1,245	2,897	2,606	-291	.90
North Carolina	2,610	4,221	6,831	2,115	-4,716	.31
Francis Marion-Sumter	2,239	1,401	3,640	9,007	+5,367	2.47
Texas	2,537	1,093	3,630	11,176	+7,546	3.08
Jefferson	989	1,686	2,675	226	-2,449	.08
Regional Office Admin.	5,597	-	5,597	-	-5,597	-
Total: Region 8	39,168	25,009	64,177	84,710	+20,533	1.33

APPENDIX I: (continued)

Forest	Timber Costs			Estimated Timber Receipts[3]	Net Timber Receipts	Timber Receipts To Costs
	Management[1]	Roading[2]	Total			
Region 9	------------------thousands of dollars	------------------	------------------	------------------	------------------	
Allegneny	1,565	785	2,350	5,176	+2,826	2.20
Chequamegon	1,375	1,226	2,601	683	-1,918	.26
Chippewa	2,255	2,046	4,301	729	-3,572	.17
Green Mountain	707	842	1,549	227	-1,322	.15
Hiawatha	1,392	1,628	3,020	476	-2,544	.16
Huron - Manistee	1,858	239	2,097	1,157	-940	.55
Mark Twain	3,653	1,368	5,021	1,525	-3,496	.30
Monongahela	1,266	1,847	3,113	919	-2,194	.30
Nicolet	2,143	1,616	3,759	730	-3,029	.19
Ottawa	1,974	626	2,600	1,590	-1,010	.61
Shawnee	731	396	1,127	286	-841	.25
Superior	2,600	3,270	5,870	551	-5,319	.09
Wayne - Hoosier	808	65	873	775	-98	.89
White Mountain	1,074	1,066	2,140	726	-1,414	.34
Regional Office Admin.	2,776	--	2,776	--	-2,776	--
Total: Region 9	26,177	17,020	43,197	15,550	-24,647	.36
Region 10						
Chugach	1,219	381	1,600	10	-1,590	.01
Tongass[4]	18,213	21,770	39,983	3,380	-36,603	.08
Regional Office Admin.	3,295	-	3,295	-	-3,295	-
Total: Region 10	22,727	22,151	44,878	3,390	-41,488	.07

---

[1] Management costs include timber sale preparation and administration, specific activities in support of timber sales (e.g., hydrologists, soil scientists), and the portion of reforestation and timber stand improvement attributable to the timber sales program. Timber salvage and brush disposal costs are not included.

[2] Road building costs include road construction from appropriated funds and engineering support. Purchaser road credit costs are not included.

[3] Timber sale receipts are based on "statistical high-bid" values for timber prepared and sold during FY1982. This does not include the value of roads constructed by timber purchasers.

[4] Includes timber costs and estimated receipts for 50-year contracts in the Tongass National Forest.

[5] By law, 25% of "gross timber receipts" must be paid to the states. Gross timber receipts is defined as cash receipts plus the value of purchaser constructed roads. For FY 1982 this is $614.2 million in anticipated timber receipts, plus $193.8 million in purchaser road credits obligated with FY 1982 timber sales. Thus the 25% payment to states would be $202.0 million.

[6] If the 25% payment to states is deducted, net loss to the federal government on national forest timber operations in FY1982 is estimated to be $316.9 million.

SOURCES: Forest Service Testimony, U.S. House Committee on Appropriations, Department of the Interior and Related Agencies Appropriations for 1984, Part II.

Personal communication with Engineering Staff, U.S. Forest Service, Arlington, Virginia, February, 1984.

"Timber Cut and Sold," Timber Management Staff, U.S. Forest Service, Washington, D.C., (unpublished reports).

U.S.. Forest Service, Report of the Forest Service, Fiscal Year 1983, Washington, D.C., 1984.

Personal communication with Timber Management Staff, U.S. Forest Service, Washington, D.C., February, 1984.

WALL STREET JOURNAL Editorial Page November 14, 1984

The Feds Can't See Their Losses in the Trees

By Peter Emerson, Anthony T. Stout
And Deanne Kloepfer

Last month, President Reagan signed a piece of "timber relief" legislation under which the federal government will bail out speculative buyers of national-forest timber for their losses. Signing the bill gained him a few votes he didn't need in the Pacific states, forgave the judgment errors of some timber-industry executives and will end up costing the American public dearly. However, the bill represents only a small part of the public "relief" extended to those segments of the timber industry dependent on the national forests.

In 1982, during a deep recession, the U.S. Forest Service lost $740 million selling timber from the national forests for lumber, paper and other wood products. These losses, a result of below-cost timber sales on many forests, confirm what public land experts have long known: National forests are managed uneconomically at best, to the detriment of taxpayers, the environment and the timber industry. Over the last decade, if below-cost timber sales had been eliminated in both good and bad years, the federal treasury would have netted at least $2 billion more.

While lamentable and contrary to the clear intent of the law, this situation is far from surprising. Born of the need to conserve the nation's timber resources nearly a century ago, the Forest Service has traditionally shunned the use of economic criteria in planning and management decisions. It continues to rely on an obsolete pricing system that frequently fails to recover the government's cost of growing and selling trees. Moreover, the Forest Service does not even track the costs of individual timber sales!

As a result, the Forest Service engages in commercial timber harvesting on millions of acres of public land where timber values are so low that profit-oriented landowners would not consider building roads and cutting trees. Several studies show the most consistent losses are in the Rocky Mountains and Alaska. The Forest Service's recent annual report acknowledges that 37% of timber volume was sold below cost in 1983. Agency data for Alaska yield especially disturbing results: On average, each dollar spent for federal timber sales returned merely two cents in timber sales receipts. A recent U.S. General Accounting Office analysis of 3,244 national forest timber sales in the West found that "in two Rocky Mountain regions . . . over 88% of the sales were below cost in 1981 and over 96% were below cost in 1982."

Concern about such uneconomic management goes beyond taxpayer losses. As accessible old-growth timber is depleted in the Western states, the timber industry is gradually shifting to more productive forest lands where tree farming is most profitable. In particular, private forest lands in the South have a vast, untapped timber-growing potential. The Forest Industry Council estimated in 1980 that domestic timber demand in the year 2030 could be supplied by private forests alone, using intensive timber management practices, if landowners could realize a 10% annual return on investment. Unfortunately, the continuation of below-cost timber sales in the national forests retards this development. Federal timber sold below cost depresses the market price, weakening economic incentives to invest in private forest lands. Timber firms are being encouraged to rely too heavily on the national forests as a source of wood at the expense of private timberland owners and investors.

Now that Congress has passed wilderness bills for many states, upward of 30 million acres of roadless national forest land have been released for development consideration in coming Forest Service plans. Much of this land consists of remote, high-elevation forests, with low timber-growing potential, on the Pacific Coast and in the Rocky Mountains. Many attributes of these roadless lands—wildlife habitats, unique natural ecosystems, potential discoveries in genetics and other sciences, and the solitude available—play an integral part in the development of Western communities. Financially unsound logging destroys wilderness values, hindering the growth of recreation industries and the diversification of the local economy.

Further, the Forest Service has not provided convincing documentation that below-cost sales yield significant non-timber benefits. The agency has said even less about the wilderness values that are forgone when roadless lands are cut or about the environmental impacts of logging and road building. In short, the Forest Service—with an admittedly complex management task—demonstrates little knowledge of the non-timber benefits associated with either cut or uncut forests.

The Forest Service also contends that many below-cost timber sales are necessary in order to replace existing trees with new, highly productive stands that will show a profit. The GAO examined eight representative below-cost timber sales. In each case, the GAO found that future net returns from regenerated timber stands were negative, even using the Forest Service's economic assumptions.

Reform of timber sales practices need not be economically painful and can be accomplished under public ownership of the national forests if: First, the Forest Service would stop selling timber at prices that do not recover the government's production costs. Only if there is a proven overriding benefit to other forest uses should below-cost timber be cut.

Second, the government should encourage better use of the untapped timber-growing capacity on private lands. While the elimination of federal below-cost timber sales from the market is an important first step in attaining this goal, other steps will be necessary. These include long-term research and technical information from the Forest Service and others, and continued industry support for cooperative timber-management programs between industry and private landowners.

Finally, in response to a situation mostly of its own making, the government may need to assist communities dependent on national forest below-cost timber in the transition to new areas of employment. Below-cost timber sales could be gradually phased out.

Limiting timber harvesting on the national forests to lands that are economically suitable will save taxpayer dollars, encourage timber production on private land, reduce environmental damage and retain society's future options for the uncut forests.

Mr. Emerson and Mr. Stout are resource economists and Ms. Kloepfer is a policy analyst with the Wilderness Society in Washington, D.C.

THE WALL STREET JOURNAL
Published since 1889 by
DOW JONES & COMPANY, INC.
Editorial and Corporate Headquarters:
22 Cortlandt Street, New York, N.Y. 10007.
Telephone (212) 285-5000

WARREN H. PHILLIPS
Chairman and Chief Executive

RAY SHAW
President

PETER R. KANN
Vice President/Associate Publisher

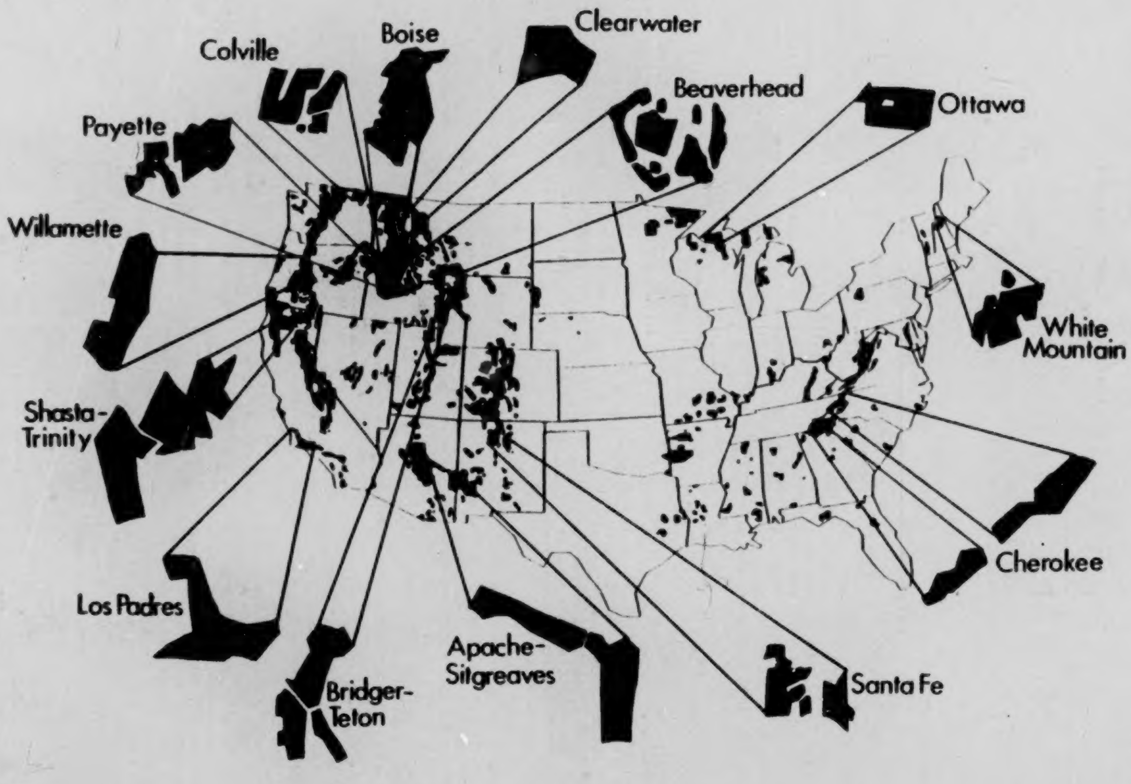
NORMAN PEARLSTINE, *Managing Editor*
ROBERT L. BARTLEY, *Editor*
FREDERICK TAYLOR, *Executive Editor*
BERNARD T. FLANAGAN, *Vice President/Marketing*
LAURENCE G. O'DONNELL, *Associate Editor*
LEE HEFFNER, *Vice President/Advertising*
KENNETH L. BURENGA, *Vice President/Circulation*
FRANK C. BREESE III, *Vice President/Operating Services Group*

DONALD A. MACDONALD, *Vice Chairman*
GEORGE W. FLYNN, *Senior Vice President*
FREDERICK G. HARRIS, *Senior Vice President*
WILLIAM L. DUNN, *Vice President/General Manager*
EDWARD R. CONY, *Vice President/News*
BETTY A. DUVAL, *Vice President/Staff Development*
W. GILBERT FAULK JR., *Vice President/Legal*
JAMES H. OTTAWAY JR., *Vice President/Community Newspapers*
STERLING E. SODERLIND, *Vice President/Planning*
ROBERT A. SCHMITZ, *Vice President/Business*

Washington News and Sales Offices
[illegible] Connecticut Ave. NW, Washington, D.C. [illegible]
Telephone [illegible]

SUBSCRIPTION AND ADDRESS CHANGES should be sent to The Wall Street Journal, [illegible] Road, Chicopee, Mass. [illegible], giving old and new address. For subscription rates see Page 2.

NATIONAL FORESTS SELECTED FOR DETAILED ANALYSIS


Colville
Boise
Clearwater
Beaverhead
Ottawa
Payette
Willamette
White Mountain
Shasta-Trinity
Cherokee
Los Padres
Apache-Sitgreaves
Santa Fe
Bridger-Teton

Enlargements not shown to scale

Presented by Lynn Greenwalt
Vice President for Resources Conservation
National Wildlife Federation

Mr. Chairman, members of the Committee, thank you for the opportunity to present the views of the National Wildlife Federation on "below cost" Forest Service timber sales. My name is Lynn Greenwalt, and I am the Federation's Vice President for Resources Conservation. The National Wildlife Federation (NWF) is the nation's largest conservation-education organization, with 4.5 million members and supporters nationwide, and 51 state affiliated organizations. We have had a longstanding concern for the proper management of our National Forests.

The National Forest system is the nation's natural resource reserve. National Forest lands provide for wildlife habitat, productive fishing streams, recreational opportunities, clean water for domestic use and irrigation, timber and range. These lands are distinct in their management goals and purposes from private forestlands. They are to be managed under the principles of multiple uses and sustained yield. All natural resources on public lands are to be protected, and the productivity of the land must not be impaired.

These are the high principles of stewardship which Congress has set forth in the law for management of the

National Forests. Yet, Federation members throughout the country question whether the promise of the law is being met. They witness roads being built in areas critical to elk, bear, and other wildlife species. They encounter land managers being compelled to meet unrealistic goals for timber production; goals which do not take account of the many other forest resources. They become convinced that non-commodity values are being sacrificed to maintain or boost the production of timber and livestock grazing.

When we examine the management of the National Forests lands, it appears that their fears and concerns are justified. For example:

- Forest Service plans project declines in fish populations throughout the state of Montana.
- Elk seasons may have to be curtailed due to over-access of important habitat.
- Elk populations in Wyoming will decline.
- In the South, not even minimum viable populations of red cockaded woodpeckers will remain on several national forests.
- In the Hells Canyon National Recreation Area logs and debris have been pulled directly through prime salmon streams during the critical spawning season.

The causes of these wildlife declines, roadbuilding and timber harvesting - continue apace, oblivious to their impact on wildlife and other natural resources of our forests. Road building continues apace into prime primitive hunting areas, such as Tolan Creek on the Bitterroot National Forest. Here a spokesperson for the Montana State Department of Fish, Wildlife, and Parks stated that "the area is more valuable as security range" than for timber management.

These examples of environmental degradation from roading and harvesting on our National Forests all have one other thing in common. They have primarily occurred on land where Federal investments in timber management lose money. From the Federation's perspective, this Subcommittee's examination of below-cost timber sales is an important opportunity to restore protection of wildlife and other natural resources of our National Forest lands.

The public land manager must decide where public monies are invested to yield the greatest return.. The investment decision should consider the environmental consequences of the project, the immediate and long-term financial return to the government, and the effects on local communities and economies.

However, it is not the decision of the public land manager responsible for each National Forest whose decisions are most critical. It is Congress, the public land manager responsible for all of our public lands, which must guide and direct those investment decisions. The first, and most important question for the Congress to resolve is where will the public's investment in timber production yield the greatest return to society.

It is axiomatic that some forestlands are more productive of timber than others. In addition to inherent biological productivity, the profitability of timber management investments is affected by other factors, such as proximity to the mill, difficulty of access caused by terrain, and the need to protect non-timber values. All else being equal, investments made in timber production on more productive forestlands are more profitable than identical investments on less productive lands.

For historic reasons, the nation's private forestlands, on average, have greater inherent timber production potential, are closer to mills, and are more easily accessed than public forestlands. These factors make the private forestlands the appropriate dominant source of wood products to meet the nation's demands.

What then is the appropriate role of the federal government when it enters the market place in competition with private suppliers of timber? The National Wildlife Federation believes that the multiple purpose goals of public lands and the industrial goals of an adequate and economical supply of timber are best met by limiting investments in timber management on lands where the costs exceed the benefits. These public funds are better spent, if they need be spent at all, on more worthy and profitable projects. It would make more sense to invest our tax dollars on improving management of more productive private forestlands than trying to grow trees on public land where the investment will yield a negative return.

The Federation, and its members, understand that timber harvesting is appropriate on National Forests. But, harvesting that both degrades natural resources and loses money is not good public policy.

Public lands, which are of relatively low productivity for timber, are often of highest value for fish and wildlife habitat, watershed resources, and recreational and scenic values. While at one time public enjoyment of these resources may have required improved access to National Forests through expanded road systems, we do not believe that to be the case any longer. Simply put, we have enough roads on the National Forests to serve these public uses. We do not want or need any more. The National Forest System already contains 342,000 miles of roads, with 277,000 miles open to public motor vehicle travel. During the past 10 years 91,000 miles of lands have been constructed or reconstructed in the National Forest System. The Forest Road System is more than adequate to meet recreational needs.

One of the investment criteria for timber management on public lands should be the effect of government decisions on local communities. There are communities dependent on the harvest of timber from economically unsuitable forestlands. In some cases, these communities were founded on harvesting from more productive private lands which have been cut-over either too quickly to sustain the community or have not had the needed investments in reforestation. In other cases, these communities are creations of misguided Forest Service policy. In an attempt to utilize every possible acre of wood, no matter how unprofitable, the Forest Service has actively marketed wood and subsidized timber industries where they do not belong. The best known example is the efforts of the Tongass National Forest to subsidize the creation of a pulpwood industry in southeast Alaska which requires yearly transfusions of millions of dollars in public subsidies.

Continuing to cut and grow trees at a net loss to the taxpayer and the environment is not the only nor the best solution to these communities problems. In our view, this approach is poor public policy and in the long run will complicate the problems faced by these communities while degrading natural resources. Instead, the federal government should be constructively involved in funding retraining programs, promoting stable growth industries, such as tourism, recreation, packing and guiding, and commercial fishing for these communities. Communities should be notified through forest plans that timber harvest levels will be phased down as unprofitable land is removed from the base, so that they might have the time to plan their economic future. There is little question that other industries for these small towns will be less volatile than the erratic timber industry has been this century.

In conclusion, Mr. Chairman, uneconomical investments in timber management on public lands of low productivity are a needless expense of taxpayers dollars, represent unwarranted competition with private producers of timber, and put at jeopardy the natural resources for which these lands of the National Forests are best managed.

Attached to my statement are specific responses to the questions posed by the Subcommittee's hearing charter. In addition to my summary statement today, NWF's staff forester, Andy Stahl, will address this Subcommittee on a subsequent panel. He will address specific examples of poor investment decisions by the Forest Service and discuss in detail the use of economics in forest decisionmaking.

Thank you, and I will be pleased to answer any questions.

(Attachment follows:)

Responses to Questions Posed by the Subcommittee on Forests, Farms, and Energy of the House Committee on Agriculture Regarding Below-Cost Sales

Prepared by Andy Stahl, Forester
National Wildlife Federation
June 5, 1985

1) Briefly, how do you define "below-cost" timber sales, and what are the implications of the definition on how many sales are placed in the "below-cost" category?

Response: NWF defines "below-cost" as sales on lands where investments in sustained yield timber management are economically inefficient. This would include those sales where the direct costs of access (either by purchaser credit or appropriated funds), sale preparation and administration, brush disposal, reforestation, future stand maintenance, protection and intensive management practices are greater than the revenue from the first and subsequent entries.

In addition to "below-cost" sales, NWF generally opposes the practice of "timber mining," that is, harvest of profitable existing stands on land where sustained yield management of the future timber is an economic loser. This is often the case on land of relatively low productivity where the existing stand is old-growth timber and, therefore, will sustain the costs of access and sale preparation and administration so the existing stand. But, discounted investments in the growth of a future stand including reforestation, stand maintenance and protection, and any desired intensive management practices are less than the discounted value of the future timber crop. NWF believes multiple-use goals are best met, at a minimum, by maintaining the present forest for its amenity values until such time as the future value of future timber crops appears to justify investments on these low productivity.

There is a category of "below-cost" sales which are economically justifiable, though not in every case environmentally sound. These are sales on productive forestlands where the value of the existing stand is very low, not covering the costs of access and sale preparation and administration, but the present net value of future timber more than makes up for the present loss. These situations are not common, but NWF recognizes they exist and are an opportunity. They are more common on private lands than on public lands, because, generally speaking, private lands are more productive and past management neglect has created low-valued stands on productive sites.

2) The Forest Service admits that some sales are below-cost, but seems to argue that this should not be a major policy concern because:

(a) They operate under strict environmental constraints that greatly inflate timber sale costs.

Response: As pointed out by the Forest Service in their response to Congressman Whitley's question regarding road costs, there have been no studies which document the differences in costs of roads between public and private landowners. Neither are we aware of any documentation of the differences in costs of other forest practices between private and public landowners. There may be some increased cost associated with providing environmental protection on public lands, but our judgment is that this cost is not excessive. We recommend the Forest Service explore more cost-effective means of meeting environmental protection goals in those areas where the costs appear to be extreme.

(b) Because they manage for a wide range of multiple uses in a long term perspective, individual timber sale costs and benefits are not presently being accurately accounted for by its critics. Specifically, investments are now being made to assure adequate resources and benefits for the future.

Response: NWF does not agree that timber sales generally enhance a "wide range of multiple uses." It has been our experience that timber sales generally degrade or cause no change in the quality of amenity resources, such as wildlife habitat, recreational opportunities, water quality, fish habitat, and scenic views. Therefore, the long-term multiple-use benefits of timber sales are limited to a few resources, such as timber, forage for early seral species such as cattle and deer (though this condition generally is short-lived on most harvested acres; usually about ten years), and firewood cutting.

(c) Proper accounting for the costs and benefits of forest management is nearly impossible because, for example, some resources like scenic beauty, cannot readily be assigned a dollar value.

Response: NWF agrees that it is difficult to assign dollar values to the loss of scenic beauty, anadromous fish habitat, hunting opportunities, and clean water caused by timber harvesting and road building. But, rarely are these amenity resources enhanced by timber harvesting and road building. Therefore, using timber costs and values alone, one can make a conservative estimate of the loss associated with managing timber on economically inefficient lands. The additional non-quantified costs are the loss of environmental quality.

3) The Forest Service has stated that "the issue of below-cost sales is not primarily an accounting problem." Do you agree? What is the primary problem that creates these below-cost sales?

Response: Yes. Below-cost sales are created by choosing to use biological criteria solely for making investment decisions in forest management without any meaningful economic evaluations.

4) To what extent can the issue of below-cost sales be resolved by developing better cost accounting procedures? Can you specifically list what costs and benefits should be identified in a timber sale accounting system? Are we justified in spending a substantial amount of tax dollars on developing this new accounting system? Please comment on the alternatives now being considered by the Forest Service for its accounting system.

Response: NWF does not believe that the issue of below-cost sales will be resolved through better accounting. The Forest Service currently has the information necessary to determine which lands are productive enough to warrant investments in timber production. The problem is that this information is not used to determine when and where timber should be harvested and to determine where investments should be made.

5) Section 6(k) of the National Forest Management Act of 1976 (NFMA) requires the Secretary to identify lands not suited for timber production. This section requires consideration

be given to economic, among other, considerations. How has the Forest Service implemented this section of NFMA?

Response: The Department of Agriculture has promulgated regulations (36 CFR 219.14) which implement Section 6(k). As they relate to economic criteria, these regulations define as economically suitable for timber production any forestlands "necessary" to meet a pre-determined harvest level. The pre-determined harvest level does not appear to be based on economic efficiency criteria.

5 (cont.) Should the factors listed in Section 6(k) for considered for individual timber sales?

Response: Section 6(k) is not explicit in defining the factors to consider in making timberland suitability decisions. The Secretary through promulgation of the NFMA regulations requires that consideration be given to restockability and irreversible damage to soil and water resources. Forest Service timber sales assert that these physical suitability criteria are considered. The Forest Service does not use economic efficiency criteria in individual timber sales; though they do attempt to minimize the costs, i.e., they use cost-effectiveness criteria. NWF supports the use of economic efficiency and more stringent physical criteria in the decision to sell specific timber sales.

5 (cont.) Do you recommend changes or study be given to making changes in this section or its regulations?

Response: Yes. We recommend that Congress establish policies which generally limit investment of public funds in timber management on forestlands where the present net value of the timber costs and receipts is negative. Exceptions could be provided where the Forest Service proves that the amenity values associated with the timber management investments outweigh the net loss associated with timber.

6) The land management planning process provides for public involvement in setting management direction for the National Forests. Are you given adequate opportunity to comment on the land management plans and the planning process? Do your comments actually influence the land management plans? Are you given adequate opportunity to review and comment on management area prescriptions? On road network plans? Do you believe that the planning process is the appropriate forum for resolving the below-cost sales issue?

Response: NWF believes that the Forest Service should be commended for the general openness of the planning process. They are making a sincere effort to involve the public in what is admittedly a very complex process. Our comments are given consideration and have resulted in changes in the planning process in many instances. It is too early to tell how responsive the final forest plans will be to NWF's and our state affiliate's concerns as most are not yet completed.

The availability of information on prescriptions and road plans is variable, depending on the region or the forest.

The Forest Service is not addressing below-cost sales in the planning process and is not likely to in the future. Given this reality, we urge Congress to take steps to develop a product policy regarding how tax dollars are best used to manage low-productivity forests.

7) Forest roads can provide other benefits in addition to providing access for harvesting timber. For example, Chief Peterson has stated that timbering is "the most cost-effective way" to improve wildlife habitat. What are the other benefits of road construction and timber harvesting generally? In addition, what are the non-cash costs associated with the timber sale program, such as environmental degradation? Moreover, how often and when do timber revenues plus the above benefits outweigh timber sale costs?

Response: It is overly simplistic to claim that timber harvesting improves wildlife habitat. In fact, the species of most concern, those that are decreasing in number or have reached the threatened or endangered status, are generally harmed by timber harvesting. Though timber harvesting does improve habitat for species preferring early seral stage habitat, it does so only for a short time, generally about 10 years. For the next approximately 100 years in the life of the stand the habitat has very low species richness and diversity.

Road construction and timber harvesting can provide access for firewood gathering and certain kinds of recreational opportunities. Often, in the case of recreation, the kinds of opportunities provided by roads are in over supply and the kinds of recreation lost due to road construction are in more limited supply. Roads provide access for management purposes, such as fire protection and intensive stand management. But, the presence of roads also greatly increases the risk of fire, so the net effect is often negative. In addition, intensive stand management in areas of low productivity is often not economically justified, so the "benefit" of the road is illusory. There is a perception that roads, in and of themselves, are a benefit. They are not. The are a cost of production, be the resource timber, recreation, firewood, etc. As will all costs, they should be minimized and justified.

Mr. Lynn Greenwalt's testimony summarizes NWF's environmental concerns associated with inappropriate timber sales and roads. More specific examples can be submitted at the request of the subcommittee. NWF has expressed concerns with dozens of individual projects and been successful in resolving many of these problem areas by working with the Forest Service and through administrative and judicial litigation.

Rarely, in NWF's judgment, do the non-timber benefits of below-cost sales outweigh the loss associated with poor investments of public funds in growing timber on these lands. Usually it is a double loss, the loss of taxpayers dollars and the loss of environmental quality.

8) The Forest Service has stated that road construction costs are not the overriding reason for below-cost timber sales; yet, such sales are often associated with high road

construction costs. What are your thoughts on how the Forest Service should allocate construction and other investment costs among resources and over time?

Response: NWF believes that, with only limited exceptions, the needs of non-timber resources for access are adequately met with the current road system. Therefore, additional roads are justifiable only for the timber they access and the land they place under timber management. In any economic analysis, the cost of this access should be compared with the timber benefits in order to determine the prudence of the road investment.

It is appropriate to consider the entire time stream of costs and benefits associated with the investment in access. A discount rate may be used, though a qualitative determination of whether the access project carries positive or negative net value can be made without the use of a discount rate. This is because the costs of access are usually made in the near-time and the benefits are generally accrued later. Therefore, choosing to use no discount rate will, in fact, underestimate the loss associated with negatively valued investments.

9) The Forest Service, in its testimony before the Subcommittee on February 26, 1985, stated that they are now considering a new timber sales policy to address the

below-cost sales issue. What factors would you like to see incorporated in the consideration of a new policy to guide timber harvesting on the National Forests?

Response: We recommend that the Forest Service adopt policies which generally limit investment of public funds in timber management on forestlands where the present net value of the timber costs and receipts is negative. Exceptions could be provided where the Forest Service proves that the amenity values associated with the timber management investments outweigh the net loss associated with timber.

TESTIMONY OF TIM MAHONEY

WASHINGTON REPRESENTATIVE

SIERRA CLUB

Mr. Chairman, Members of the Subcommittee, I am Tim Mahoney, Washington Representative of the Sierra Club, a conservation organization with approximately 350,000 members. It is a pleasure to appear today before you and discuss the problems of uneconomic timber sales, and roadbuilding practices, and the role of the Congress in addressing these issues.

Many of my friends on this panel and the others that you will be hearing today can speak more eloquently than I can of specific problems throughout the country where uneconomic timber sales and road building programs appear to set the agenda for forest planning. Others will be better able to analyze the economic models used by the Forest Service. I will attempt to speak very generally about this problem from my perspective: that is, as a representative of a national conservation organization who attempts to translate the localized concerns of our membership into the congressional process.

The most expensive aspect of the timber program are the roads that are constructed to access the timber sales. These roads are in two categories: (1) forest roads, fully appropriated by Congress, are higher standard, more expensive arteries and access large, often undeveloped areas. (2) purchaser credit roads which are part of the individual timber sales, are generally shorter, lower standard, and usually constructed by the timber operator, although the operator may have engineering help from the Forest Service. These roads are not directly appropriated (although the engineering assistance from USFS is appropriated) but their costs are deducted from the price of the timber sales, resulting in less revenue for the Treasury. These roads, in total, are much more extensive than the core forest roads. (In FY 86, the proposed budget projects about 7-1/2 times as much mileage from these purchaser credit roads relative to the main forest road arteries.)

The Forest Service has testified before this Subcommittee and others that the appropriated forest roads should be properly considered multiple use roads, and therefore their costs should not be added to the costs of the timber program; that other values such as recreation driving should be assessed in their favor. Our members do not find that these roads coincide with recreational demand or access to fish and wildlife, but rather that these roads are constructed solely to access timber, particularly when the cost of purchaser credit roads would be too expensive relative to the timber value to otherwise permit sales to go forward. So the Forest Service builds the main forest road with appropriated funds, and the timber which had been evaluated as marginal, is then transformed to a fully economic status. While there are not as many miles of forest roads built each year as purchaser credit roads, the location of roads makes them the driving force behind the timber sale program and thus, the purchaser credit road program. It is the experience of our volunteers that the so-called other multiple use values of these roads, if any, are usually enumerated in hindsight to justify their construction. And, the environmental and economic costs of developing wild areas and damaging wild values is underassessed.

Let us examine how the various forest programs have compared in reaching the Forest Service's own goals in accomplishing the Forest and Rangeland Renewable Resources Planning Act (RPA) targets for Fiscal Year 1984, the most recent year for which the Forest Service report is available. In the accompanying chart, I show several of the programs associated with or in direct conflict with road building and timber production. You will see, for example, that in trail construction, a tangible measurement of the agency response to primitive recreation demands, accomplishments in FY 1984 were 24% of the RPA goals. Soil and water resource improvement was accomplished at 28% of RPA goals. Wildlife habitat improvement (often used as a justification for the timber program) was accomplished at 34% of the RPA goals. By contrast, timber volume offerings in FY 1984 reached 98% of RPA goals, despite the soft markets for timber over the past few years. But timber volume offered is only one measure of the timber program. Forest road construction, that which is directly appropriated by the Congress, accomplished 140% of RPA goals in FY 1984.

So, while some programs were scrimping along at one quarter or one third of the Forest Service's own assessment of their needs, road construction, the front end loading of the timber program, was occurring at 40% more than even the Forest Service claimed was necessary or desirable. I want to stress that the FY 1984 accomplishments occurred even though many western states had not passed wilderness bills despite the so-called "uncertainty" surrounding roadless areas. It's apparent that the construction of roads has been continuing unabated throughout the forests whether other programs are funded or not.

It is not enough to say that the road construction and timber offerings have been funded full tilt and then some while other programs, and their personnel, have been reduced, but timber and roads have been proceeding even though the forest products industry has been unable to use the timber that has been offered.

A second table, taken directly from the report of the Forest Service in Fiscal Year 1984 with a supplemental figure for Fiscal Year 1985, taken from the Forest Service budget documents, shows that in each year since 1980, the Forest Service has offered more timber than was harvested. The repeated failure to harvest the timber offered, (and the Forest Service didn't sell all the timber that was accessed and offered in any year either), means that we now have a glut of timber which has been accessed but not sold and even more which has been sold but not harvested. The latter category accounts at present for 40 billion board feet, a four-year supply.

This glut is so bad that Congress last year passed timber contracts relief legislation--a buy-back bill, by which companies could cede back to the government timber which had been purchased and see it reoffered, usually at lower prices, and harvest the cheaper reoffered timber. Sierra Club and other conservation groups did not oppose this legislation. Indeed, we encouraged provisions within the legislation that provide that the reoffered timber be put back into production first, before new road building accesses new timber stands.

Mr. Chairman, I would emphasize that all of this unharvested timber is at least presently accessible by the core forest roads. They have already been constructed. The majority of these sales, in addition, have already had their timber purchaser roads constructed. In some forests, 90% or more of the timber sales have already been fully accessed. And yet, the sales remain uncut, and the forest program and budget continues to emphasize new roads accessing new, more marginal areas--not just at the expense of other values which are taking their lumps in the budgetary and planning process, but even beyond the capacity of the nation's timber market to harvest and use the existing timber sales and road systeem. This is like force feeding a Christmas goose.

Let me emphasize that the impacts of the road building program are cumulative, i.e., every year, the Forest Service adds more roads to the existing network; every year the roads are being constructed at or above RPA goals, while other programs fall short, every year, more areas are being accessed by roads, even though the timber industry is not able to harvest the timber. This program is going forward at a thousand miles of core road a year and probably seven times that amount in purchaser credit roads.

The road construction budget for the Forest Service as proposed in the FY 86 budget, is $190 million, $60 million for direct construction of 924 miles of forest roads. In the next chart, we see the additions to the forest road program since 1982 as it jumped by year from 1800 miles to 3500 miles, to 4800 miles, to, if the Congress were to approve next year's budget, 5800 miles of core roads accessing marginal lands, built at taxpayer expense, at costs of up to $220,000 per mile. And now multiply that by 7 to get the full effect. Other programs have gone begging in this period. The timber market has slumped during this period. But the road program goes on, racing ahead of demand.

When our members visit a local Forest Service office and ask why the plans advocate a doubling of the cut, which they do routinely, and ask about sales below cost, they receive all the usual platitudes about how this helps wildlife, even though state fish and game departments in Wyoming, Montana, Idaho, Colorado, and elsewhere are fighting the road program. They receive platitudes about how this helps recreation, even though it is destroying the trail system. Ultimately, when these platitudes have been pierced by our members, they are told one thing and one thing only in every forest around the country: "We don't set the program, Congress does. Congress tells us what to cut. Congress tells us how many miles of roads to build."

Mr. Chairman, the 1986 Budget with Explanatory Notes, published for the Forest Service contains 377 pages of explanation. A large section is just on construction. If you, Mr. Chairman, wanted to see what trail construction or campground construction was proposed in the next year, you can find on page 245 and following a listing of every project for fire, administrative or recreational purposes which is planned in FY 86 in every forest. Each one is listed down to projects such as the Rock Creek Trailhead in the Medicine Bow National Forest, Wyoming--cost: $2,000. Or the Tugaloo Boat Exit Site in South Carolina, cost: $15,000. Every one of these projects itemized for the Committee of Appropriations and the authorizing committees to examine. This is similar to other programs like Land and Water Conservation Fund where individual purchases are specified.

But when we turn to the forest road construction budget, nothing is itemized. We can find out the national total of forest roads or purchaser credit roads, or we can find out the total of miles of road per region, but with all the types of roads are lumped together. We are not told the cost of any particular road, but we are told that per mile construction costs of forest roads varies between $42,000 a mile and $220,000 a mile--a five-fold range of costs in this program. To go just to the 924 miles of forest road proposed for 1986, one would think that that number comes from someplace. One would think that, since that amounts to about six miles per forest, the Forest Service could provide a listing of each specific road project and its cost, as it can for trailhead construction or facility construction. But it doesn't. One would think that the Congress could examine the most expensive ones and the cheapest ones and could direct funding accordingly. But it hasn't. Even the Army Corps of Engineers is not given a check and told to build dams on whatever rivers it wants to build them on.

A budget freeze at last year's levels would not curb this problem because the roads are cumulative, and they are already out of whack with the rest of the program. There is already an overabundance of available timber. We do not need to build more roads--at least, not now. We have more available timber than we know what to do with. We don't need another year of environmental damage from road building and more wasteful spending. At the earlier hearing of this Subcommittee, the Forest Service alluded to some reforms to the problem of below cost timber sales. We understand it was to be three pronged:

Step One: new accounting systems. We are concerned this will be just another shell game of trying to find values that aren't there for other programs to try to justify the timber program and the road building program, rather than a full and fair accounting process.

Step Two: reduce the costs of the roads. While there are many indivdual roads that our members find are overbuilt, a wholesale program to reduce costs will only be used to justify a continued extension of the timber program further into more marginal areas. This will make the problem worse, not better, because reducing road standards will invariably lead to more environmental degradation as more fragile, less accessible rugged land is reached.

To go back to the Forest Service report on FY 84, the agency explains it was able to reach 140% of its roadbuilding goal in part because it found new ways to reduce the costs of roads. The agency could have saved the taxpayers a lot of money just by returning the extra money, or it could have put the money to other uses. But it did not do so. Instead, it went out and built more roads--more roads even than it said it needed. This is an example of where we'll be with Stage Two of the Forest Service reform.

Only one aspect of the Forest Service reform--the third prong--might actually serve to eliminate or reduce some of the worst case environmentally damaging and economically marginal timber sales. This was to be designing new bidding procedures which would recover more of the costs of administration, preparation, reclamation, of the sales themselves. The timber companies themselves would have to pay a larger share and the taxpayers a lesser share. If this were done, at least some of the most economically marginal sales would go unsold. Some of the most economically marginal road projects would go unbuilt. Some of the environmental damage would be avoided. What has happened to this recommendation? It's been squelched by opposition from the timber industry.

Volunteers of the Sierra Club and other groups around the country are seeing forest plans which call for doubling or tripling the cut and turning once-roadless undeveloped western forests into maps which look like spaghetti noodles. And in eastern forests, where there are relatively few roadless areas, and little undeveloped public recreation they are to be eliminated.

Mr. Chairman, we propose that your Subcommittee and the Committee on Appropriations get together immediately and take three steps:

(1) Eliminate all forest roads (not purchaser credit roads) from the 1986 budget. Money is tight. Programs are going begging. This program has been in surplus for some time. The timber industry itself cannot swallow the volume that has been made available. A moratorium is not a solution, but it slows down the problem while we look for one.

(2) Take steps to reduce the most costly roads and sales. The Sierra Club recognizes that many interests and many industries are subsidized, not just timber. We do not believe that every subsidized timber sale should be stopped, but we believe that steps should be taken to reduce the most costly of these projects and the most environmentally damaging. The Appropriations Committee could set a dollar figure, e.g., $60,000 per mile, which would be the maximum which shall be funded for

Forest Service roads in the future. Or the Committee could work with the Forest Service to examine individual proposals for individual roads. This shouldn't be too hard. The agency is obviously compiling the figures from somewhere, and it makes the figures available for items that are far less costly than the roadbuilding budget.

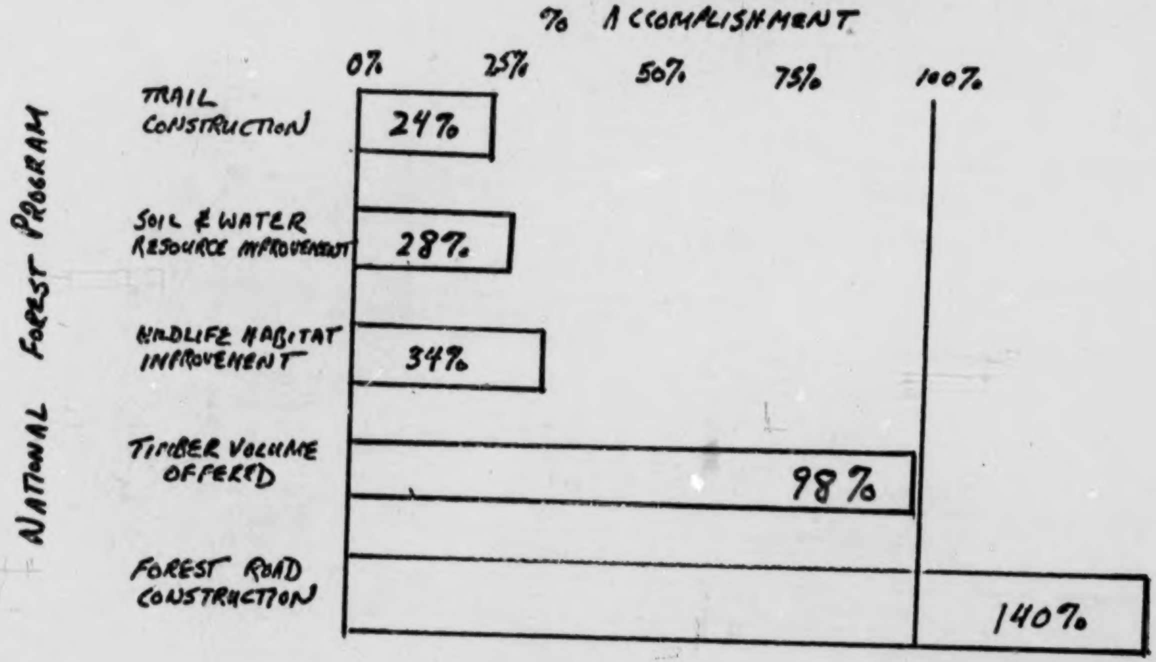
(3) Work to institute a real minimum bid procedure. Even the Forest Service appeared to be willing to reform itself to this extent before it was squelched by political considerations. Make it a condition to receive funding for the timber program in FY 86 that these reforms be instituted.

Mr. Chairman, the Congress can do these things. It could institute a forest road moratorium this year without harm to the timber industry and, should the Congress desire, use the money toward other programs which have been underfunded in the past, or simply return the money to the Treasury to help with the deficit. Because of the glut of uncut timber in every region and because forest roads of FY 86 will not affect FY 86 timber sales but only out year timber offerings, a one year moratorium on road construction would give this Committee, the Appropriations Committee, and the Forest Service itself a chance to catch its breath and take the necessary steps for long-term reforms without another year of incremental destruction of the environment and costly uneconomic road building and timber sales. We would look forward to working with you to this end. Thank you very much.

(Attachments follow:)

CHART 1

FY 1984 RPA ACCOMPLISHMENTS



Source: Report of the Forest Service, Fiscal Year 1984

CHART 2

TIMBER OFFERED AND HARVESTED

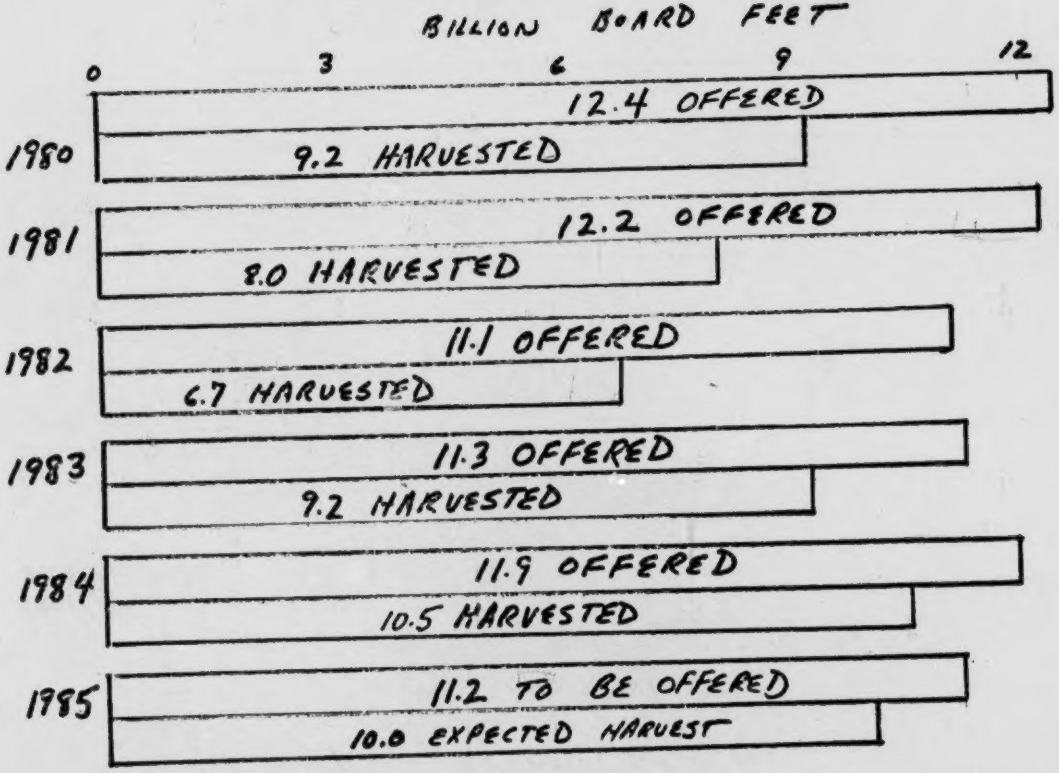
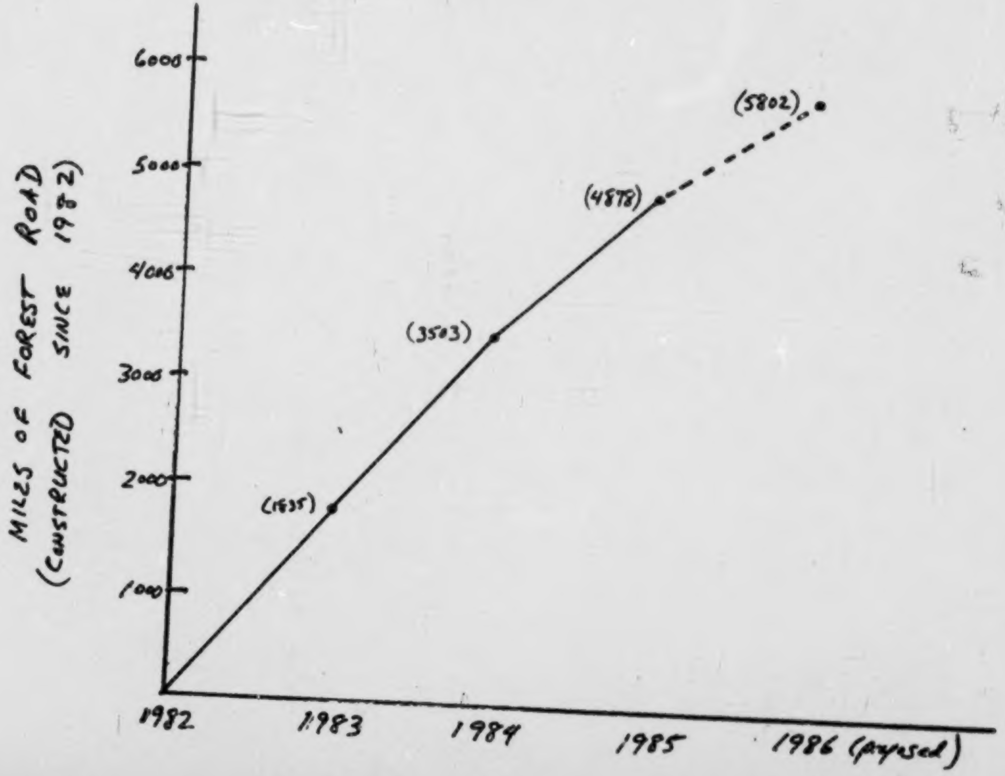


CHART 3

FOREST ROAD PROGRAM

CUMULATIVE IMPACT SINCE FY 1982



Timber Management
1/30/85

UNCUT TIMBER UNDER CONTRACT*
VOLUME AND VALUE, BY REGIONS END OF FY 1984

Regions	Short Term Volume, MMBF	Value, Mil. Dol.	Value, Dol/MBF	Long Term Volume, MMBF	Value Mil $
1	3,986.4	276	69	----	----
2	1,227.1	28	23	----	----
3	1,124.6	70	62	451.2	1.3
4	1,003.5	22	22	----	----
5	6,975.0	1,500	215	----	----
6	18,336.0	4,308	235	----	----
8	2,869.9	295	103	----	----
9	1,909.0	63	33	44.1	.3
10	460.5	21	46	6,617.1	12.2
Total	37,892.0	6,583	174	7,112.4	13.8

*Values change with contract rate redeterminations and stumpage adjustments.

STATEMENT OF BROCK EVANS

VICE PRESIDENT FOR NATIONAL ISSUES

THE NATIONAL AUDUBON SOCIETY

I am a resident of the State of Washington, speaking today on behalf of the more than half-million members of the National Audubon Society across the country. We appreciate the opportunity to testify before you, and commend this Subcommittee for holding hearings on the subject of the Forest Service's timber sale program, particularly those parts of it which return less money to the federal treasury than it costs to sell, or those parts which call for the logging of lands which are not, considering all their values, suited for timber production.

These are critical issues indeed, and since the logging and roadbuilding component of the forest program is by far its largest, their resolution will determine what kind of National Forest System we will have well into the next century.

Mr. Chairman, many of Audubon's over 500 local chapters are located near units of the National Forest System, and use them heavily for recreation and enjoyment of wildlife. As you know, our national forests are home to some of our most important, and also rarest, species of animal and bird life, such as the grizzly bear, spotted owl, red cockaded woodpecker, and many others. Sometimes, various parts of the national forests which are still in a wild or near-wild state are the last refuges of some of these species. And that is why we are here today: for a number of years now, but growing in intensity with each one that passes, our national and regional headquarters have been besieged by complaints from members of chapters that Forest Service logging and roadbuilding programs are so seriously altering and changing the character of the national forests that, if present trends continue, it will be difficult, if not impossible, to continue to protect some threatened or endangered species. In addition, the forests as islands of serenity and recreational enjoyment in an increasing sea of man-made developments will no longer exist.

This is the sad fact of present Forest Service policies, and that is why we are here today. We believe that the scope and extent of the present Forest Service logging and roadbuilding program has seriously violated not only the letter, but also the spirit, of the numerous statutes that this Congress has set up to guide its management programs over the years, from the Organic Act of 1897 to the Multiple Use Act of 1960 to the Forest Management Act of 1976.

I wish I could report to you that this is a new situation -- but unfortunately, it is not. I have actively observed, commented on, and worked to change policies of the Forest Service for at least 20 years now, and statements and evidence being presented at this hearing today and earlier this year give me the strangest sense of "I have been here before." True, the justifications of the Forest Service for continuance of its present programs and policies are more sophisticated; but the results out there on the land, and the protests that arise from them, are just the same.

For example, 20 years ago a coalition of conservationists, sportsmen, and ranchers protested excessive roadbuilding in Montana's Bitteroot National Forest, but the agency continued to defend its practices in the name of "good silviculture," until a study reqested by the U.S. Senate called the practices what they in fact were: timber mining.

Now today, it is the turn of the Beaverhead National Forest in the same state, a place of even more fragile soils and higher elevations and minimal timber values, where the agency nevertheless proposes to sacrifice its superlative elk hunting and famous fishing streams for the sake of subsidizing a forest products industry that provides perhaps one-half of one percent of the total employment in the area.

In the late 1960's, similar protests by ranchers and sportsmen in Wyoming about roading, and logging in prime elk habitat led to issuance of a scathing report by a Blue Ribbon Commission advocating of reform; and yet today, while there is some, improvement, many more areas have been lost.

In place after place, forest after forest, from the White Mountain in New Hampshire to the Monongahela in West Virginia to the San Juan in Colorado to the Payette in Idaho and the Siuslaw in Oregon, the pattern is the same: a pattern of degraded fisheries and ruined streams, soil erosion and damaged big game habitat, the elimination of wildlife, ruining of recreation spots and favorite vistas, all in the name of the economy, and almost all of it at a great loss to the taxpayer. As my colleagues have already pointed out, this can hardly be called "multiple use."

Others on this panel, as well as witnesses to follow, will document in specific detail the overwhelming emphasis of the Forest Service on timber production at the expense of other multiple use values. They will document that there is a loss not only of the things most of us have come to cherish from a national forest-such as solitude, fishing and hunting opportunities in an unspoiled setting, plentiful supplies of pure water. but also that the logging causing these losses and the roadbuilding associated with it takes place at great cost to the taxpayer. They will show that in a sense we are paying for these programs and these policies not only with our wildlife, our fish, our soils, our scenery and our recreation -- but also with our dollars.

My purpose in the few minutes remaining at this hearing is simply to speak to some of the more common or more recent justifications of the Forest Service now given to support the massive roadbuilding and logging program. Some of the arguments and justifications are decades old, and we have all heard them before; some, as I already mentioned, are newer and more sophisticated. But having lived with these arguments, and having seen the results on the ground over the past 20 years, none of them have much validity for us anymore.

For example, the Forest Service says that excessive roads are necessary to provide access in case of forest fires. Such arguments did have a marginal truth to them before the era of helicopters and smoke jumpers, when the forests were truly unroaded, in the 1930's -- but no more. Now the national forests are laced with roads of all kinds -- 342,000 miles in them, increasing at the rate of seven to eight thousand miles a year. The scarce places in the forests now are those places without roads. And, more importantly from the standpoint of this argument, the existence of such roads does not necessarily mean we have fewer fires, or that they can be controlled more quickly. Indeed, some of the worst fires in the history of the West, such as the famous Sundance fire in northern Idaho in 1967, occurred and burned out of control in an area laced with roads of all kinds. In the Raft River fire in Washington State in 1967, the fire literally raced down the logging roads from clearcut to clearcut, jumping right over the standing green trees in between. The reason: roads open up the cool, moist forest canopy, permitting the material underneath to dry out. Then when the fire comes through lightning or cigarettes, it will rage even more out of control.

The Forest Service also states that its huge road network is necessary to provide access for recreationists. Once again, there was some marginal value to this statement in the 1930's and '40's, before there were many roads on the public lands -- but once again, no more. Now there are enough roads, within national forest boundaries to drive back and forth across the entire nation 50 times, with over two more round trips being added each year. New roads simply shift road-oriented types of recreation from one place to the other, but do not increase it. And they certainly diminish the experience for every other type of recreationist. Additionally, especially in the steep, narrow valleys that are about all that is left of our roadless country, the logging roads were laid out right over or next to existing trails, destroying the trail experience. That is why we have experienced a one-third loss in Forest Service trail mileage since World War II, at the same time the road network has at least quintupled.

The Forest Service is fond of claiming that timber sales, whether below cost or not, can be used to improve wildlife habitat, especially big game summer range. Once again, when the forests were largely unroaded and unlogged, some species such as elk could benefit from the increased summer range which comes from browse created by logging above the winter snow line. But once again, no more: now what is hard to find in the national forests is winter range: uncut stands of trees at lower elevations which prevent the snow cover from getting so thick that the elk or deer can't get through it to eat the browse that is there. That is why professionals in nearly every state fish and wildlife agency throughout the West are expressing their grave concern and alarm about Forest Service roadbuilding and logging policies; 20 years ago, before the full scope and extent of the program could be realized, there were few such concerns and protests.

Finally, and cutting across all these arguments and contentions of the Forest Service is a recurring theme which is a new one: that we must think of a "long term management perspective," and "invest now for future needs." The Forest Service is not required by law to turn a profit on its timber sales or its roadbuilding program, we are told; the timber sales program is really just one useful vehicle for achieving our whole broad management resources program.

This is ironic in the extreme to those of us who have dealt with the agency for the past two decades. Twenty years ago, when we would approach the agency to suggest they not log a certain place, we were told "we are doing it because it makes money for us, because the dollar value of the return from logging far outweighs any of the values like wildlife or recreation that we can't quantify anyhow." Now, we come back two decades later with economists, speaking the language of economics, and document in detail that many of the timber sales that so damage wildlife, fisheries, and recreational values as well, also lose money. But now we are told that economics aren't really that important and we shouldn't be considering them . . . we're doing this to improve recreation access or to benefit the wildlife, even though we really can't quantify how. . .

Well, we reject these arguments. The plain fact of the matter is, and it is obvious to anyone who has seen the results of the logging and roadbuilding program on the ground, that roads are built for one purpose: to get at the timber, and get the logs out They would not be built if the trees weren't there. If the trees are big enough and accessible enough to turn a profit, the roads are built with "purchaser credits;" if they're not, the roads are built with taxpayers' money. But they're built for the trees. We shouldn't kid ourselves about any other purpose, but we can be pardoned for rejecting all the other arguments. We should call a spade a spade, and that is the sad crisis of the national forests.

Finally, we are told that all of the discussion currently about sales below cost and roads below cost is somehow a "smokescreen" to disguise our real intent which it to save more roadless areas.

There is no question that we strongly believe that many roadless areas should remain that way, whether protected by Congress or the Forest Service; but our proposals have been open and publicly stated for years. Everyone knows where the boundaries are and what we are talking about.

But the sadness of the situation, Mr. Chairman, is in the fact that there seems to be no alternative. Either a place is protected as wilderness by Act of Congress, or it will surely be roaded and logged by the Forest Service -- if it has any trees in it. If it doesn't trees, but has minerals, it will be left open to minning, or leased for oil and gas. We ask: is this multiple use? Is this what Congress intended in the statutes that it has passed over the entire past century? We think not.

It is tragic that a once great agency, created at the turn of the century to protect the forests (which is one of the mandates of the Organic Act) has become its enemy. It is sad and tragic that in order to justify the policies which are destroying, not only the other multiple use values of the forest, but even the productivity of much of its land to grow trees on a sustainable basis, that the Forest Service has become so defensive and retreated into evermore sophisticated justification of its bankrupt policies.

This is a sad fact, and a sad policy -- but it is not irreversable. We call upon this committee to reaffirm once more to the Forest Service that just because an area contains trees, it is not the intent of Congress that it must therefore be roaded and logged. We call upon the Congress to require the Forest Service to return to its orginal principles and practices and become once again the kind of agency that we can all respect and, most of all, trust.

Natural Resources Defense Council, Inc.
1350 NEW YORK AVENUE, N.W.
SUITE 300
WASHINGTON, D.C. 20005
202 783-7800

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10168
212 949-0049

Western Office
25 KEARNY STREET
SAN FRANCISCO, CALIF. 94108
415 421-6561

Inefficiency in National Forest Timber Management

Testimony (Part Two) of the Natural Resources Defense Council

before the

Subcommittee on Forests, Family
Farms and Energy
Committee on Agriculture
United States House of Representatives

At a Hearing on the Economics of Federal Timber Sales

Gloria E. Helfand
Consulting Economist

June 5, 1985

New England Office: 850 BOSTON POST ROAD • SUDBURY, MA. 01776 • 617 237-0472
Public Lands Institute: 1720 RACE STREET • DENVER, CO. 80206 • 303 377-9740

100% Recycled Paper

NOTE: This testimony by economist Gloria E. Helfand is one of two statements being submitted to the subcommittee at this hearing by the Natural Resources Defense Council.*/ It is intended to set forth the factual and analytical framework within which the current debate on below-cost timber sales is taking place. Ms. Helfand's statement should be read in conjunction with the additional testimony of senior attorney F. Kaid Benfield, which addresses the specific policy questions put forth by the subcommittee in its charter for this hearing.

A brief biography of Ms. Helfand is appended to this statement.

Table of Contents

Summary and Introduction.............................. 1

Economics and National Forest Planning................. 2

Analysis of Below-Cost Timber Sales in the National Forests.................................. 6

Effects of Below-Cost Sales...........................13

Employment Factors....................................17

Conclusion..20

---

*/ The Natural Resources Defense Council, Inc. (NRDC) is a private, non-profit membership corporation with over 45,000 members and contributors dedicated to the conservation, enhancement and defense of the natural resources of the United States and the world. For over a decade, NRDC has maintained a forestry project to monitor and promote wise, balanced use of the national forests, and has played a leading role in shaping the federal policies and laws pertaining to forest management.

Summary and Introduction

Over the last decade, the economics of national forest timber production has come under increasing scrutiny. A large number of studies have found that many federal timber sales do not recover the costs that the public must incur in making them, raising questions about the effects of these sales on the federal treasury, on other uses of the national forests and on other producers of timber. The Natural Resources Defense Council (NRDC) welcomes this subcommittee's interest in this important matter.

In this statement, we will review a number of the studies performed on "below-cost" timber sales, describing the major approaches used and results derived from them. The conclusions of these studies are remarkably consistent in their exposure of certain regions and forests with poor financial performance on timber transactions.

We will also review the consequences of below-cost sales, which are similar to those that flow from other subsidized programs: federal deficits are exacerbated; alternative uses of the national forests are displaced; and private timber producers, who receive no comparable federal subsidy, are facing unfair price competition from a source that does not attempt to recover its costs.

The goal of more efficient federal timber management requires a new approach to determining which forest lands are suitable for timber production, an approach that considers both economic and physical criteria. While such an approach may result in reduced harvests in some national forests, with potential consequences for the timber industry in those areas, it should be noted that major changes are occurring in the industry external to Forest Service policy. These changes -- a relocation of much of the industry to the Southern United States from other regions, and increasing use of labor-saving technology throughout the country -- should not be viewed as necessarily deterimental to the public interest; rather, the public interest may be best served by encouraging an orderly transition to new opportunities for affected individuals and communities. While the disruptive effects of the transition should not be ignored, the long-run effects can be arranged to lead to increased benefits for all concerned.

Economics and National Forest Planning

In some ways, it is surprising that the use of economics in national forest management is controversial. In a broad sense, economics is the study of the allocation of scarce resources; national forest managers must allocate parcels of land to varying uses in an efficient manner. In the sense that forest management is involved with analyzing tradeoffs and choosing among the different uses of the forest, it is inherently an economic process.

Within this economic process, it is imperative that those managing the public trust examine the relative efficiency of land for different uses. Specifically, the national forests are intended to produce recreation, fish and wildlife, timber, grazing, and water, through multiple-use management. In making management judgments, the Forest Service is implicitly required to meet an efficiency standard by the Multiple-Use, Sustained-Yield Act of 1960, which requires that the agency recognize the various forest uses "in the combination that will best meet the needs of the American people" and make "the most judicious use of the land for some or all of [the multiple-use] resources."[1]

Ideally, in analyzing the economic efficiency of timber management on various parcels of land, all the benefits and costs of timber management -- both monetary and nonmonetary -- would be included. However, this is difficult at best. The monetary benefits of timber management -- prices paid by private buyers to the government for stumpage -- are, although sometimes difficult to project into the future with precision, much more objectively ascertainable than non-monetary benefits. The fact that attributes of the forest such as wildlife habitat, soil protection, and the "option value" of maintaining wilderness areas have value to people (and thus, by definition, have economic value) does not mean that standard benefit-cost techniques as currently developed can accommodate such values well. To the contrary, many of those forest uses are not easily described, predicted, quantified or valued in dollar terms.[2] It is therefore better analytically to separate the monetary costs and benefits from the other, non-monetized impacts.[3]

Sometimes both monetary and non-monetary factors support the same management decisions. For example, if harvesting timber in an area is known to produce net negative effects on non-timber resources, and if commercial timber values are too low to permit cost recovery, then both monetary and non-monetary factors would suggest that harvesting not take place. In other cases, the two sets of factors may be opposed, requiring a cautious, balanced approach to decisionmaking.

Neither the relatively objective monetary nor the relatively subjective non-monetary assessment alone can give complete information on the appropriateness of managing an area for timber, but analyzing them separately and then giving each appropriate weight in decisionmaking is a reasonable and methodologically sound approach to determining the desirability of timber management in an area.

The Forest Service, however, does not take a close enough look at the objective financial data relevant to timber harvest, and makes little attempt to separate objective and subjective criteria in its decisionmaking process.4/ Historically, the agency has either ignored economic analysis entirely or tried to mix financial and subjective factors together into an analysis that is superfically economic but not sufficiently objective to assist decisionmaking in a meaningful way.

A separate analysis of the monetary costs and receipts of timber is critical not only to assist optimal land allocation but also to prevent unfair competition in the marketplace. Because certain forest amenities, such as endangered species habitat or the solitude of wilderness, are generally not provided by private markets, despite a public consensus that they should exist, it is appropriate for a government agency to provide them as public resources permit. However, when a good is also privately provided, as is timber, public subsidy of timber harvests acts as a disincentive to private timber growers who do not receive an equivalent subsidy and cannot operate for sustained periods of time with losses on their harvests. Appropriate use of financial criteria would require timber management in the national forests to meet at least the same economic standards as timber management on private lands, thus increasing private incentives for timber production. This is especially pertinent to the eastern United States, where most forest land is privately held.

This is not meant to suggest, however, that the national forests should be run like a timber company's land. Rather than maximizing profits, the Forest Service's mission is to maximize the public welfare. If maximizing public welfare requires adding costs that private companies may not bear (for instance, to meet higher standards), these costs should still be made and generally exceeded by the receipts from the timber sale. Indeed, national forest management should be a model for environmentally sound and economically efficient multiple-use managment, and it is appropriate for the Forest Service to take full account of its costs in meeting that goal. Even if the federal government is unable to provide a positive incentive to others to operate in the same manner, at least it should not provide a disincentive to tree growers who would like both economic efficiency and environmental quality to come from their forests.

Analysis of Below-Cost Timber Sales in the National Forests

The standard economic procedure for projecting the economic worth of a proposed project over time is "present value" analysis. This method is based on the idea that benefits and costs can be reasonably predicted, but a dollar in the future is not worth the same as a dollar today. In this method, a "discount rate" (analogous to a compound interest rate) is used to assign a value in a base year (a "present value") to costs and benefits that occur at various times in the future. After all benefits and costs are discounted, the costs are subtracted from the benefits, resulting in a "present net value."

Most present value analyses of timber distinguish between the value of harvesting the existing stand of timber and the value of managing the land for timber after the current harvest.[5/] If the former has a positive present net value while the latter has a negative value, then the land is considered economically nonrenewable.[6/] Although a private timber grower might harvest only the existing stand, leaving the harvested land for other uses, the Forest Service is precluded by reforestation requirements and principles of sustained yield from engaging in such "timber mining."

Where present value analyses have been conducted of proposed national forest timber sales, the results frequently show that portions of many forests are not economically renewable. For instance, it should probably not be surprising that the San Juan National Forest in Colorado, where the land is generally not very productive and where growing seasons are short, has been found to have negative values not only for second growth, but for present stands as well.[7] In the northern Rockies, where the land is somewhat more productive, two studies have found that second-growth stands frequently do not recover their costs, though most existing stands do.[8] In the Mendocino National Forest in California, where site productivity can be quite high, one study has found that all of the area in one proposed wilderness addition has negative values for timber production on regenerated stands, though most stands do have positive current-stand values.[9] Even in the Pacific Northwest, known for its valuable stands of old growth, many forests have substantial acreage where the value of a regenerated stand will not recover the costs of managing that stand.[10]

While some have argued that, if the benefits of harvesting the existing stand outweigh the future losses due to continued timber management, harvest of the existing stand is economically justified,[11] others argue that only the economic value of the regenerated stand should be considered since, once the existing stand is harvested, the forest will be a perpetual drain on the public treasury.[12] However this conflict is ultimately resolved, it is clear that those sites where current gains are not sufficient to outweigh future losses should not be considered economically attractive for sustained yield timber management.

Although present value analysis is the generally accepted approach for reviewing the economic worth of a future activity, other procedures are also relevant. One useful method to get a broad perspective on the economic suitability of a site for timber management is a year-to-year comparison of the receipts and costs of timber management. In this method, the costs of timber programs in a given year are totalled, even though the costs might not relate directly to timber cut in that year, and compared to the receipts from timber harvest.

This approach is analogous to balancing accounting books in a business enterprise at the end of a year. It may be acceptable to a company to have costs greater than receipts at some times if, for example, it is making some capital investments that will produce larger returns over time; however, no company can afford to have costs outweigh receipts on a continual basis, or the company will go broke. When this kind of analysis is done over a number of years, it can provide useful information about the financial viability of timber operations.

There is no universally accepted method for doing a receipts-costs analysis. Because different economists differ on what constitute the costs of timber management, because timber expenditures are sometimes said to benefit other, non-timber resources, and because expenses incurred in one year may not relate directly to the receipts of that year, there have been a variety of methodologies used in published studies and some controversy as to their proper interpretation. The results of these studies do not necessarily constitute conclusive evidence on the economic suitability of a particular site for timber management; nevertheless, they can indicate that problems may exist in certain areas and, in that respect, provide useful guidance as to the viability of public investments. Particularly where the results indicate relatively small differences between receipts and costs, more detailed present value analyses of those forests should be performed to confirm the results.

Despite the differences among these studies and their detailed results, the general conclusions of all of them are the same: a substantial number of national forests, particularly in certain regions, often or consistently do not have receipts greater than costs for their timber sales. The forests of Regions 2 (Rocky Mountain), 4 (Intermountain), 9 (Eastern), and 10 (Alaska) especially show consistently poor cost-recovery records.

Probably the original study of below-cost timber sales was an analysis by Dr. Marion Clawson of Resources for the Future, former director of the Bureau of Land Management.13/ This study includes a balance sheet attempting to include all costs and benefits of the national forest system -- not just timber management costs -- into a financial statement for circa 1974. Dr. Clawson's analysis showed a net loss of about $1.85 billion in 1974 dollars, primarily due to the carrying costs or "rent" of the assets. The study also found that the economic viability of different regions and sites seemed to have no bearing on decisions as to where management or investment expenditures were made; in fact, for timber management costs alone, in 1972 and 1973 "there was a significant though not high negative correlation between cost and value per 1,000 board feet."14/ In sum, Dr. Clawson's study concluded that the lack of any economic assessment of the different investments and outputs of the national forests has permitted inefficient expenditures and, therefore, a possibly negative net benefit to the public.

Drawing on Clawson's work, in 1976 and 1978 NRDC published two studies[15/] comparing the receipts of national forest timber sales to the costs of such sales from 1970 through 1977 on a regional basis. Over those years, between three and six of the nine Forest Service regions had receipts less than costs in any given year; two of the regions (Rocky Mountain and Eastern) always had costs greater than receipts, and the Alaska region recovered its costs only in 1970.

In 1980, NRDC produced Giving Away the National Forests, [16/] a forest-by-forest expansion of these studies covering 1974 through 1978. Two different methods of analysis were used, incorporating different allocations of road-related costs because of assertions by the Forest Service that road construction and maintenance benefited other forest uses in addition to logging. Nevertheless, even when only 50 percent of timber roading costs were attributed to timber sales, 66 out of 118 administrative units did not recover aggregate costs over the five years; 44 forests never had receipts greater than costs. By the less conservative method, 73 forests lost money over the five years, for aggregate losses of $278 million. The study concluded that the Forest Service needed to review future timber sales for economic efficiency and reconsider the wisdom of timber sales where estimated costs would exceed estimated receipts.

This writer's master's thesis,[17/] completed in 1981, expanded upon Giving Away the National Forests. In it, three additional methods of analysis were added to check the sensitivity of the results to different, even more conservative methods. Though specific receipts-to-costs ratios changed for the forests, and though some forests had more positive results under these new analyses, the basic results stayed the same: between 39 percent and 62 percent of forests had receipts below costs over the five years. Even when only sales administration costs were compared to receipts -- ignoring all expenses associated with roads, planning, and reforestation -- 12 percent of forests never had a year where receipts covered costs. These results demonstrated that below-cost timber sales are not just bookkeeping anomalies that disappear under more favorable assumptions; indeed, there does not seem to be a method of analysis that does not uncover the problem.

The Department of Agriculture has itself produced analyses supporting these conclusions. In 1978, the Department conducted an analysis of options for suppressing lumber prices in order to limit rising housing costs.[18/] The study included a formulation of ratios comparing the receipts to the costs of opportunities to increase timber harvests in each Forest Service region. The results show four regions -- Rocky Mountain, Intermountain, Eastern and Alaska -- with receipts-to-costs ratios below 1. Drawing on these results, the Forest Service later implied that 21 percent of timber volume from the national forests was sold below cost at that time.[19/]

In response to questions from the Interior Appropriations

Subcommittee of the House of Representatives,[20] the Forest Service submitted data revealing that, in 1982, 87 out of 119 administrative units had costs greater than receipts, resulting in a loss of $86 million in those forests. Though the Forest Service asserted that "when road development costs are appropriately amortized and when the benefits to the future growth, other multiple-use benefits, and indirect economic and social benefits are considered, it is our judgment that our sales are sound investments of the public's money,"[21] the magnitude of these losses should nevertheless raise questions over the economic soundness of many Forest Service timber sales. In its 1983 annual report, the Forest Service disclosed that 37% of its timber sales in that year lost money.[22]

In 1984, the General Accounting Office (GAO) released a report[23] on below-cost timber sales, using a different approach but again producing similar results. The report analyzed 3,244 timber sales made in four Forest Service regions in the western United States in 1981 and 1982; it found that, in 1981, 27 percent of these sales were below cost, resulting in losses of $64 million, while in 1982 42 percent of timber sales had losses amounting to $92 million. It also examined the hypothesis that current below-cost timber sales may be justified by the need to replace low-valued existing timber stands with higher-valued second-growth stands; analyzing two timber sales from each of the four regions studied, GAO rejected the hypothesis, finding that the present net value was negative for all eight future sales. GAO recommends that the Forest Service keep better records on below-cost timber sales, in order to base public-policy decisions on more reliable facts.

The last of the studies that will be mentioned here are two published by The Wilderness Society.[24] In the first, which drew heavily on the approaches used by the Forest Service, records of national forest timber sales were reviewed on a regional basis for 1978, 1982, and 1983, with an additional forest-by-forest analysis conducted for 1982. The study showed 5 regions failed to recover costs in 1978, 7 in 1982, and 6 in 1983. In 1982, 97 of the 119 administrative units in the national forest system did not recover costs, and the timber sale program overall showed costs greater than receipts by $113 million. The second study, which utilized a less conservative accounting methodolgy, concluded that, over the last ten years, losses on unprofitable timber sales so exceeded gains on profitable ones that the public treasury had lost over $2 billion.

Effects of Below-Cost Sales

The effects of below-cost sales, in addition to increasing public deficits, are similar to those of any subsidy: use of the subsidized material is increased above what it would be without the subsidy, and use of substitute materials is discouraged. In this particular case, the major direct effects are conflicts with other uses of the national forests and competition with other producers of national forest timber. Given the statutory mandate for efficient use of the national forests -- the "combination [of uses] that will best meet the needs of the American people" --

these impacts should be considered when evaluating whether any below-cost timber sale should be made.

Specifically, if timber management is receiving more attention in some national forests than considerations of efficiency warrant, then the other uses of the national forests are likely receiving too little attention. The Forest Service frequently claims "multiple-use" justifications for below-cost sales by asserting that timber management benefits a large number of other forest resources and is the least expensive way to achieve this variety of objectives. However, this very general claim is often made without analysis of site-specific information about effects. For instance, in the forest planning documents for the Grand Mesa-Uncompahgre-Gunnison National Forests in Colorado, much reliance is placed on "wildlife habitat improvement" in the rationale for greatly expanding timber harvests in coming years, even though timber cutting only benefits some wildlife in some areas and with some specific methods; detailed analysis reveals that overall benefits may be minimal at best.25/ The same plan states that "the evidence is overwhelming" for the practice of patchcutting timber in order to increase water yields,26/ but one organization commenting on the plan listed a number of studies showing that results are sensitive to a number of factors and may actually decrease water yields at some times of year.27/

In general, while timber harvesting may in fact have positive effects on some forest uses at some sites, in other situations the effects are likely to be detrimental and long-lived. Multiple-use justifications for below-cost timber harvests should be examined with great scrutiny and allowed only on a case-by-case basis as exceptions, not the rule.

With respect to impacts on private timber growers, it should be noted that the national forests generally supply about one-fifth of the total timber harvest in the United States.[28] Although other ownership groups collectively supply more timber than the national forests, no single owner can compete in volume with these public lands. Thus, the Forest Service is in a position to have a major effect on the price for timber generally, and thus the price that other timber suppliers will receive for their wood.

By selling timber below cost, the Forest Service may be competing unfairly with these other sources of timber, encouraging production of timber from the national forests instead of from other lands.[29] Private suppliers simply cannot stay in business without receiving prices for wood that recover costs and provide a fair return on investment.[30]

That sales of relatively inefficient national forest timber are being made at the expense of private timber sales can be demonstrated by postulating an increase in national forest timber harvests. Using a computer model, one 1975 study[31] found that an increase in national forest harvests from 11 billion board feet per year to 14 billion board feet would increase the present net value of these public forests by 11.4 percent; however, all other timber producers would suffer a decrease in present net value of 6.2 percent, and the present net value of total forest land would decline 0.8 percent. These results rely heavily on various disputable assumptions,[32] but they do demonstrate that the volume of national forest timber harvest can significantly affect private timber markets.

The most direct form of competition results from selling timber at subsidized low prices; timber purchasers will naturally seek out the lowest prices for comparable supplies of timber. Regional markets and timber species and quality vary considerably and, while the Forest Service sells some of its timber at very high prices, it frequently sells timber at prices that are low indeed. NRDC[33] reviewed timber sales made in 1978 and categorized them by prices. While over one billion board feet of non-salvage sale timber -- about 13% of that year's total -- was sold at over $300 per thousand board feet, a similar amount was sold for under $20 per thousand board feet; one-fifth of non-salvage timber volume in 1978 (a year of relatively strong prices) was sold below $40 per thousand board feet. Unless private forest management costs are negligible, which is unlikely, private forest owners cannot compete with these prices. As a result, demand for timber, at least at the margin, shifts to the national forests and away from private timber lands.

Evidence exists that private forest owners can and will produce increased quantities of timber if they receive the appropriate financial incentives to do so.[34] However, if prices for wood and wood products are held artificially low by subsidized national forest timber sales, these landowners will not be able to achieve rates of return comparable to other forms of investment, and they will not contribute as they could to national timber supply levels. To the extent that these private lands are considered necessary to meet future timber supply needs, below-cost sales are contributing to the possibility of timber shortages in the future,[35] contrary to the mission of the Forest Service to ensure present and future supplies of timber for the United States.

Employment Factors

Better use of site-specific economic factors in national forest timber management may lead to two results: increased prices, and reduced national forest timber sales. The latter possibility often leads to concern over the potential loss of timber-related employment in communities dependent on those timber sales. To the extent that this rationale is given for inefficiently large national forest timber harvests, decisionmakers must consider whether the concern is accurately placed.[36]

In fact, in many places where below-cost sales are common, the national forests furnish only a small portion of the overall wood supply. Private timber sources are ample to meet industry needs, and little if any effects on local employment would result from a decrease in national forest output. This is generally the case with those forests located east of the Rocky Mountains.

Moreover, even in those western forests where federal timber presently constitutes a substantial portion of local supply, the impacts of national forest outputs may be exaggerated. It is often not recognized that employment in the wood products industry is subject to fluctuations and shifts that are quite independent of national forest policy.

Specifically, in the short run -- that is, over several years -- the number of jobs in timber-related industries is determined primarily by the market demand for timber and by wood prices. As can easily be seen by observing the last few years, this demand fluctuates with changes in overall economic conditions (including interest rates, which affect new housing starts), over which the Forest Service has little control. In times of high timber demand, limits on national forest harvests may provide a ceiling in some communities for the number of jobs; however, in times of low timber demand, the Forest Service can do very little to protect workers, since timber supply, the only element it can affect, cannot maintain an industry whose product is not being purchased at sufficient levels. The employment effects of a phase-out of below-cost sales over a number of years might well be minimal, as they would be lost in normal short-term variations.

In the long run, a review of the employment effects of reducing uneconomic timber sales must consider what level of employment would exist in the wood products industry in an area if uneconomic sales were maintained. Two major factors are already acting to reduce these employment levels, particularly in the Pacific Northwest. First of all, timber supply in that region of the country is expected to drop over the next two decades as private forest lands are depleted;[37] even if investment leads to greater private timber supplies in the twenty-first century, it is unlikely that this region will be able to compete with the South (a region dominated by private, not public, forests) as a timber-growing region.

Thus, some major regional losses in timber industry employment seem inevitable regardless of Forest Service activities. Adjustment of national forest timber harvest levels to reduce below-cost sales will provide its own form of regional shift, away from lower-productivity areas to higher-productivity ones; nevertheless, it will only be part of an already ongoing shift.

A second major long-term effect will strike all regions. The advent of improved technology in the timber industry is gradually reducing the demand for human labor. One study from the 1970s estimated that available timber industry jobs would drop 36 percent by the year 2000 due to these factors, assuming stable timber supplies.[38] Again, the upgrading of harvesting and milling technology is a factor with a significant effect on timber industry employment over which the Forest Service has little control. Any employment losses or regional shifts due to reduction of below-cost sales must be considered only as part -- and perhaps a relatively small part -- of shifts that are occurring already.

Ultimately, maintaining jobs in the timber industry through below-cost sales is a form of welfare or income redistrubution. If public policy in an era of deficit reduction supports this goal, the government should direct its efforts to finding the most effective form of welfare, rather than promoting timber harvest simply because timber was previously an economic base.[39/] While disruption in local communities caused by changing patterns in the timber industry cannot be ignored, policy might be more effectively oriented toward easing the transition instead of attempting -- and failing-- to avoid it.[40/] Indeed, if jobs and communities follow the changes in timber supplies, losses in some individual areas will be offset by gains in others, and the overall national economy may benefit.

Conclusion

The Forest Service must be directed to use economic analysis to insure that public timber investments are wisely placed. As noted, present value analysis is preferable to receipts-costs analysis in determining which lands are economically suited for timber management. Nevertheless, properly formulated receipts-costs analyses, because of their simplicity, can be used to identify the worst cases and suggest additional areas where present value analyses are most likely to reveal problems.

A reduction in below-cost timber sales from the national forests would not eliminate all conflicts in national forest management, nor would it make all private forestry economically attractive. However, it would enhance both of these goals while reducing federal deficits. Through improved economic management of the national forests, the Forest Service can and must promote more efficient and equitable production and use of all forest resources.

NOTES

1/ Multiple-Use, Sustained-Yield Act, 16 U.S.C. 528-531, in *The Principal Laws Relating to Forest Service Activities*, Agriculture Handbook No. 453, by U.S. Department of Agriculture, Forest Service (Washington, D.C.: U.S. Department of Agriculture, 1983), p. 156.

2/ See, for example, John V. Krutilla and Anthony C. Fisher, *The Economics of Natural Environments* (Baltimore, Johns Hopkins University Press, 1975), pp. 123-125; Anthony C. Fisher, *Resource and Environmental Economics* (New York, Cambridge University Press, 1981), pp. 139-140.

3/ See, for example, Krutilla and Fisher, *ibid*., Chapter 5; Gloria E. Helfand, *Timber Economics and Other Resource Values: The Bighorn-Weitas Roadless Area, Idaho* (Washington, D.C., The Wilderness Society, 1983).

4/ USDA -- Forest Service, "National Forest System Land and Resource Management Planning," *Federal Register* 47:190 (September 30, 1982), p. 43046, Section 219.14(c).

5/ William F. Hyde and Dennis C. LeMaster, "The Marginal Lands Provision," *Journal of Forestry* 77:1 (January 1979), pp. 19-21; Randal O'Toole, *A New Reality: Timber Land Suitability in Oregon National Forests* (Eugene, OR, Cascade Holistic Economic Consultants, 1979); James Merzenich *et al*., "Economic Analysis of Timber: Montana Wilderness Study Act Areas" (Missoula, MT, USDA -- Forest Service, Northern Region, 1980); Helfand, *op*. *cit*.

6/ Robert S. Manthy, "Scarcity, Renewability, and Forest Policy," *Journal of Forestry* 75:4 (April 1977), p. 204.

7/ William F. Hyde, "Timber Economics in the Rockies: Efficiency and Management Options," *Land Economics* 57:4 (November 1981), pp. 630-637; William F. Hyde, "National Forest Logs Red Ink for Treasury," *The Wharton Magazine* 6:1 (Fall 1981), pp. 66-71.

8/ Merzenich *et al*., *op*. *cit*.; Helfand, *op*. *cit*.

9/ Anthony T. Stout, *Timber Values in California's Yolla Bolly-Middle Eel Wilderness Addition* (Washington, D.C., The Wilderness Society, 1984).

10/ O'Toole, *op*. *cit*.

11/ Hyde and LeMaster, *op*. *cit*.; Merzenich *et al*., *op*. *cit*.

12/ See, for example, O'Toole, *op*. *cit*.

13/ Marion Clawson, "The National Forests," in Materials: Renewable and Nonrenewable Resources, eds. Philip H. Abelson and Allen L. Hammond (Washington, D.C., American Association for the Advancement of Science, 1976), pp. 168-174; Marion Clawson, The Economics of National Forest Management (Washington, D.C., Johns Hopkins University Press, June 1976).

14/ Clawson, Economics, ibid., p. 70.

15/ Natural Resources Defense Council, "Forest Service Pricing Mechanism for National Forest Timber Sales," Congressional Record 122:H-4169--H-4172, May 10, 1976; Natural Resources Defense Council, "Many Forest Service Regions Show Average Timber Sale Costs Exceed Average Timber Sale Income" (Washington, D.C., Natural Resources Defense Council, May 1978) (Photocopy).

16/ Thomas J. Barlow, et al., Giving Away the National Forests: An Analysis of U.S. Forest Service Timber Sales Below Cost (Washington, D.C., Natural Resources Defense Council, 1980).

17/ Gloria E. Helfand, "An Analysis of the Costs and Receipts of National Forest Timber Sales," unpublished master's thesis (St. Louis, MO, Washington University, 1981).

18/ U.S. Department of Agriculture, Internal Work Group, "Options for Dampening Softwood Timber Products Price Increases," Draft (Washington, D.C., U.S. Department of Agriculture, May 25, 1978) (Mimeographed).

19/ Luke Popovich, "Sierra Club White Paper -- Black and Blue and Read All Over," Journal of Forestry 77:779, December 1979; conversation with John Sessions, Timber Management Division, U.S. Forest Service, January 9, 1980.

20/ U.S. House of Representatives, Committee on Appropriations, Department of the Interior and Related Agencies Appropriations for 1984, Hearings, 98th Congress, First Session, 1983, Part 11, pp. 339-342.

21/ Ibid., p. 327.

22/ Report of the Forest Service, Fiscal Year 1983, Washington, D.C., p. 91 (1984).

23/ U.S. General Accounting Office, Congress Needs Better Information on Forest Service's Below-Cost Timber Sales, GAO/RCED-84-96 (Washington, D.C., General Accounting Office, June 28, 1984).

24/ V. Alaric Sample, Jr., Below-Cost Timber Sales on the National Forests (Washington, D.C., The Wilderness Society, 1984); Peter M. Emerson et al., Wasting the National Forests: Selling Federal Timber Below Cost (Washington, D.C., The Wilderness Society, 1984).

25/ USDA - Forest Service, Final Environmental Impact Statement, Grand Mesa, Uncompahgre, and Gunnison National Forests (Delta, CO, USDA - Forest Service, September 1983), pp. III-76, IV-50, VI-243; Gloria E. Helfand, "Timber Economics and the Planning Process for the Grand Mesa-Uncompahgre-Gunnison National Forests, Colorado," in Appeal of Plan and EIS for the Grand Mesa, Uncompahgre, and Gunnison National Forests: Statement of Reasons, by Natural Resources Defense Council (Washington, D.C., Natural Resources Defense Council, December 1983), p. 16.

26/ USDA - Forest Service, ibid., p. VI-121.

27/ Ibid.

28/ Report of the Forest Service, Fiscal Year 1983, p. 21.

29/ This discussion is drawn from Gloria E. Helfand, "An Analysis of the Costs and Receipts," op. cit., pp. 115-120.

30/ Carl Beyerhelm, "The Real Story About Deficit Sales," Journal of Forestry 83:203, April 1985.

31/ H.R. Josephson, "Economics and National Forest Timber Harvests," Journal of Forestry 74:605-608, September 1976.

32/ Hans M. Gregerson and Thomas W. Houghtaling, "Economics and National Forest Timber Harvests -- Additional Considerations," Journal of Forestry 75:28-29, January 1977.

33/ Thomas J. Barlow et al., op. cit., Appendix 2.

34/ James M. Vardaman, "Attitudes of Foresters Toward the Small, Private Landowner," Journal of Forestry 76:368, June 1978; H.R. Glascock, Jr., "Small Forest Wood: Who Needs? Who Pays?" Journals of Forestry 75:450, August 1977; Forest Industries Council, Forest Productivity Report (Washington, D.C., National Forest Products Association, 1980).

35/ C.W. Bingham, "Defining the Timber Supply Concerns of the Timber-Growing Industry," Speech before the Forest Products Research Society Timber Supply Panel (San Francisco, CA, October 2, 1979). (Photocopy.)

36/ This analysis is drawn from Gloria E. Helfand and Peter M. Emerson, "Timber Supply, Community Stability and the Wilderness Scapegoat," Western Wildlands 8:4 (Winter 1983), pp. 14-19.

37/ D.M. Adams et al., "Private Investment in Forest Management and the Long-Term Supply of Timber," American Journal of Agricultural Economics 64:232-241, 1982.

38/ J.B. Stevens, "Six Views About a Wood Products Labor Force, Most of Which May Be Wrong," Journal of Forestry 77:717-720, 1979.

39/ Thomas R. Waggener, "Community Stability as a Forest Management Objective," Journal of Forestry 75:714, November 1977; Arnold Bolle, "'Timber Giveaway' -- A Dialogue," The Living Wilderness 44:38, June 1980.

40/ Con H. Schallau, "Can Regulation Contribute to Economic Stability?" Journal of Forestry 72:216, April 1974.

Biographical Note

Gloria E. Helfand worked for the Natural Resources Defense Council from 1979 to 1981 as a consultant and staff researcher on forestry and other issues. While with NRDC, she coauthored the publication Giving Away the National Forests, later expanding that analysis in her master's thesis, "An Analysis of the Costs and Receipts of National Forest Timber Sales." From 1981 to 1983, she worked as an economist in the Economic Policy Department of The Wilderness Society, where she authored several studies relating to national forest management and economics. Currently, she is pursuing a doctorate in Agricultural and Resource Economics at the University of California, Berkeley. Her master's degree is from Washington University in St. Louis; her bachelor's degree from Swarthmore College.

Natural Resources Defense Council, Inc.

1350 NEW YORK AVENUE, N.W.
SUITE 300
WASHINGTON, D.C. 20005
202 783-7800

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10168
212 949-0049

Western Office
25 KEARNY STREET
SAN FRANCISCO, CALIF. 94108
415 421-6561

Reform of National Forest Timber Sale Procedures is Badly Needed and Long Overdue

Testimony (Part One) of the Natural Resources Defense Council

before the

Subcommittee on Forests, Family Farms and Energy
Committee on Agriculture
United States House of Representatives

At a Hearing on the Economics of Federal Timber Sales

F. Kaid Benfield
Senior Attorney

Anne E. Kinsinger
Project Assistant

June 5, 1985

New England Office: 850 BOSTON POST ROAD • SUDBURY, MA. 01776 • 617 237-0472
Public Lands Institute: 1720 RACE STREET • DENVER, CO. 80206 • 303 377-9740

100% Recycled Paper

NOTE: This testimony by F. Kaid Benfield and Anne E. Kinsinger is one of two statements being submitted to the subcommittee at this hearing by the Natural Resources Defense Council.*/ It is intended to address the specific policy questions on below-cost timber sales put forth by the subcommittee in its charter for this hearing. The Benfield/Kinsinger statement should be read in conjunction with the additional testimony of economist Gloria E. Helfand, which sets forth the factual and analytical framework within which the current debate on below-cost timber sales is taking place.

Table of Contents

Summary and introduction.. 1

Response to questions put by the subcommittee:

(1) Definitions and implications............................ 3

(2) Should below-cost sales be a major public concern?...... 5

(3,4) Accounting considerations............................. 7

(5) The requirements of NFMA................................ 9

(6) Non-timber benefits.....................................10

(7) Allocation of road and investment costs.................14

(8) Looking toward a new policy.............................16

Conclusion..18

---

*/ The Natural Resources Defense Council, Inc. (NRDC) is a private, non-profit membership corporation with over 45,000 members and contributors dedicated to the conservation, enhancement and defense of the natural resources of the United States and the world. For over a decade, NRDC has maintained a forestry project to monitor and promote wise, balanced use of the national forests, and has played a leading role in shaping the federal policies and laws pertaining to forest management.

Summary and introduction

For nearly a decade, NRDC and other critics have charged that the Forest Service is selling timber from the national forests in a wasteful, inefficient manner that unnecessarily drains the public treasury, spoils the natural environment and discourages private-sector forestry investments. This occurs because the agency largely fails to consider either its production costs or timber values in deciding where to sell timber and at what price to sell it.

As our companion testimony by economist Gloria Helfand documents, the problem is serious and widespread. Some studies have concluded that more efficient timber management decisions could save the treasury billions of dollars. In a time of unparalleled alarm over federal deficits, reform is warranted on this ground alone.

Yet the Forest Service remains a stone wall in its opposition to any reform, refusing to reduce timber sales from even the most unprofitable sites. The agency continues to sell timber, for instance, where it commands prices of only one or two dollars per thousand board feet and production costs approach one hundred dollars per thousand board feet. Although Congress clearly intended in the National Forest Management Act that the Forest Service address the problem in land management plans, the first generation of plans being prepared by the agency would only exacerbate it, and rather dramatically at that; harvest levels have been proposed to increase as much as three- and four-fold from forests with grossly unprofitable timber programs.

Environmentalists oppose this indiscriminate -- indeed, rampant -- timber development on lands that have low values for commercial wood but high values for recreation and wildlife. Recreationists and wildlife enthusiasts disagree strongly with the agency's premise that clearcutting and other logging is generally beneficial, not harmful, to environmental values.

In February, the Forest Service testified before this subcommittee that it was considering reforms that would address public and congressional concern over this issue. None of these initiatives was sufficient to solve the problem; nevertheless, since they were announced, the agency has already retreated, shoving the most important proposal to the back burner while considering others, if at all, only behind closed doors. The inescapable conclusion to be drawn from the agency's policies, plans and public statements is that, despite a decade of mounting criticism, the agency seeks only to defend its policies, not change them.

Perhaps the issue will have to be litigated; certain land management plans have already been challenged administratively by NRDC and other parties on the ground that the Forest Service has not taken economic factors into proper account in formulating them. It would be far better, however, if the agency would institute badly needed reforms without being ordered to do so by a court. We urge this subcommittee to continue its oversight of the pertinent issues and call upon the Forest Service to be more responsive to economic factors in timber sale site selection.

The remainder of this statement elaborates upon these points, and others, in response to the questions presented by the subcommittee in its charter for this hearing. The subcommittee's questions are addressed in the order in which they were presented.

(1) Definitions and implications

"Below-cost" timber sales occur when sales are made despite timber values too low to recover the public costs associated making them. As noted in Ms. Helfand's testimony, they typically occur in parts of the country where markets, timber quality and growing conditions are poor and where remote, rugged terrain makes access difficult and expensive. In Southest Alaska, for example, the predominant species of timber sell for between one and three dollars per thousand board feet; a Forest Service report indicates that the costs of timber sale preparation, access roads, reforestation and support average around ninety dollars per thousand board feet.*/

As Ms. Helfand points out, a recognized economic technique called "present value analysis" is the preferred method of estimating whether a projected timber sale will be economically viable; cashflow analyses, where receipts are compared directly to costs, also can be quite useful in assessing the viability of sites over time. However, there is much debate among economists, ecologists and foresters as to what costs should be counted in determining whether a particular transaction or set of transactions is above or below cost.

---

*/ See Report of the Forest Service for Fiscal Year 1981.

We find it noteworthy that a significant portion of national forest timber sales are decidedly below cost even if no costs other than those of sale administration are counted. When the substantial costs associated with additional activities related to the sale, such as site preparation, reforestation, and the construction and maintenance of logging roads, are added to the equation, the percentage of sales that is below cost goes up incrementally. The percentage also goes up in years when markets are such that timber prices are low.

These findings are elaborated in Ms. Helfand's testimony. Her research indicates that, depending on the accounting methods, between 39% and 62% of all national forests had below-cost timber programs in the 1970s. Because some forests with below-cost programs sold relatively low volumes of timber, however, the percentage of total national forest timber volume sold at below-cost prices was somewhat lower. For 1978, for instance, the Department of Agriculture concluded that some 21% of overall timber volume was sold below cost.

In the early 1980s, timber markets worsened but Forest Service selling policies did not change significantly. The result was a substantial increase in the portion of national forest timber sold below cost. For instance, the Forest Service submitted data to a House Appropriations subcommittee indicating that 87 of 119 forest units had costs greater than receipts in

1982; its 1983 annual report revealed that 37% of timber volume was sold below cost.

(2) Should below-cost sales be a major policy concern?

NRDC strongly believes that the inattention of the Forest Service to the financial consequences of logging from poor sites should be considered a major policy concern. First, in an era of mounting alarm over the burgeoning federal deficit, no federal agency can afford to give millions of dollars of public property away at bargain-basement prices. Second, below-cost timber sales are generally made at the expense of important environmental values. Retention of scenic beauty, watershed protection, dispersed backcountry recreation, and old-growth-dependent wildlife are all disadvantaged when the Forest Service is not sufficiently selective in its timber program; while it may be reasonable for conservationists to accept the environmental consequences of logging that produces financial benefits, it is clearly unreasonable in the case of logging that loses public money. Finally, as Ms. Helfand's testimony indicates, there is evidence that the subsidized prices associated with below-cost public sales unfairly compete in the marketplace with private sources of timber.

The importance of this issue is in no way undercut by the Forest Service's various attempts to minimize it. First, the argument that it is the cost of environmental protection that drives timber sales into the red is largely misplaced. We have reviewed data indicating that such costs result in only a 3%

decrease in the present net value of a forest plan with an ambitious timber program;*/ most below-cost sales suffer a much wider margin between costs and receipts.

Similarly, the evidence does not support the agency's argument that long-term considerations warrant losses on current investments. As to investments in future timber quality, in fact, the evidence is quite clearly to the contrary; both Ms. Helfand's testimony and recent analysis by the General Accounting Office reveal that, more often than not, future timber sales from poor sites will lose even more money than current ones. As to investments in non-timber multiple uses, the Forest Service has never been able to demonstrate empirically the likelihood of sufficient future benefits to justify current timber losses; with limited exceptions, multiple uses benefit not from logging but from restraints on logging.

Finally, with respect to the argument that economic analysis is of limited value because some resources are not easily assigned a dollar value, this fact hardly constitutes a reason for ignoring the deficits, environmental disruption and unfair competition that below-cost sales create. It is true that non-monetary forest values are important but, for the most part, these are precisely the values that are harmed by below-cost sales. It is partly because of these values that the relatively objective financial data that can be ascribed to proposed timber sales should be an essential part of the Forest Service's decisionmaking process. Where non-monetary, multiple-use considerations clearly warrant a different decision than that indicated by financial criteria, some below-cost sales should be allowed as exceptions to the general rule.

---

*/ See Draft Environmental Impact Statement, Allegheny National Forest at B-138-140.

(3,4) Accounting considerations

The problem of below-cost timber sales is related not so much to inadequacies in accounting capabilities as it is to the failure of the Forest Service to use constructively the accounting capability that it already possesses. As noted above, the agency already has methodology that has enabled it to identify the portion of its timber program that is below cost. It also has performed present value analyses of planning alternatives in many national forests, although those analyses are frequently contaminated by dubious assumptions concerning various side benefits of logging.

The approach that we favor is discussed at some length in Ms. Helfand's testimony: all of the direct costs that the public must incur to sell timber should be weighed against the direct receipts, in both present value analyses and receipts-cost analyses; where those analyses identify sites where timber can be sold only at a loss, it should be sold only in exceptional circumstances.

Although economists can debate the merits of including a variety of benefits and costs in the equation, a good starting point is found in Forest Service regulations at 36 C.F.R. 219.14(b)(1) and (2): "Direct benefits are expressed as expected gross receipts to the government. Such receipts shall be based upon expected stumpage prices and payments-in-kind from timber harvest .... Direct costs include the anticipated investments, maintenance, operating, management, and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production."

The Forest Service has indicated that it is attempting refinements in accounting methods. While an undertaking of this sort may have some potential for aiding the public interest, in our view a higher priority should be placed on direction to the Forest Service to use its existing capabilities to reduce public timber investments in unprofitable timber sites.

Indeed, if preliminary papers released by the Forest Service are an indication, the agency may well be misusing the process of developing a "new accounting system" to obscure, rather than illuminate, below-cost timber sales. Indications are that the Forest Service may be developing a system that will define timber production costs narrowly but rely heavily on various subjective and highly debatable "benefits" of logging to make below-cost sales appear economically justified. As pointed out in Ms. Helfand's testimony, we feel strongly that, although nonmonetary benefits -- and, certainly, nonmonetary costs -- may properly be considered in decisions to sell timber, such benefits and costs do not belong in an accounting system.

(5) The requirements of NFMA

Section 6(k) of the National Forest Management Act directs the Forest Service to screen from its timber production base those lands that are not suited for logging because of "economic" and other factors. The section's legislative history clearly indicates that it was intended to require the agency to address the problem of below-cost sales in national forest planning.

Nevertheless, the Forest Service has made a mockery of its organic statute by actually proposing substantial increases in logging from forests with already grossly unprofitable timber programs. The agency equates the identification of sites that are economically "not suited" for timber production -- the determination required by section 6(k) -- with the identification of those that are not needed for logging to meet forestwide timber production goals, regardless of how unprofitable the sites may be.

In adminstrative appeals of forest plans for the San Juan and the Grand Mesa, Uncompahgre and Gunnison national forests, all in Colorado, NRDC and nine other conservation organizations have formally challenged the Forest Service's failure to implement section 6(k) properly. The Chief of the Forest Service has rejected these appeals, which for several months have been before the Secretary of Agriculture for a final decision. Although we are hopeful that the Secretary will reverse the Chief's ruling, we are fully prepared to litigate the matter if necessary.

Our legal concern, thus, is not that section 6(k) is inadequate or even that the Forest Service's regulations under that section are inadequate, though the regulations are vague and cumbersome at best; our quarrel, rather, is with the agency's failure to interpret the law and regulations in a manner that gives them meaning. If no settlement can be reached -- and none seems in sight -- the adequacy of the law will be a matter for the judgment of the courts. We are confident that a court will find the agency's procedures, as applied in the plans under appeal, to be insufficiently responsive to the Congressional intent.

(6) Non-timber benefits

As it has become increasingly clear that logging from poor sites cannot be justified on financial grounds, Forest Service personnel have increasingly attempted to justify it on the basis of a variety of purported side benefits of logging. These usually include increased access to forest recreation from logging roads, improved wildlife habitat for species that prefer forest openings, and the more vague benefits of a "healthy," managed forest of young, pest- and disease-resistant trees.

We agree that there may be some instances where non-timber resources can benefit from logging operations; the creation of small forest openings for certain wildlife species represents a fair example. For this reason, we would favor a policy that allows some below-cost sales as site-specific, case-by-case exceptions for multiple-use purposes. However, both the existence and extent of non-timber benefits associated with logging are far from generally recognized by foresters, ecologists and economists, and we urge the subcommittee to examine claims pertaining to them with great caution and scrutiny.

Our review of available data and information indicates that the side benefits of logging have sometimes been grossly exaggerated by the proponents of below-cost timber sales. In most cases logging is harmful, not helpful, to non-timber forest uses; in others, logging creates benefits that are marginal at best and provide insufficient justification for the substantial public investments required to support an unprofitable logging program.

For example, with respect to the purported recreational access provided by logging roads, there is a paucity of data indicating that forest recreationists prefer to use areas of the forest that are being logged. In any event, the Forest Service frequently proposes building far more mileage than data indicate is necessary for recreation needs; in the draft plan for two North Carolina forests, the agency proposed substantial new road mileage notwithstanding that several roads had recently been closed due to a lack of use. Moreover, the trend in forest roadbuilding is toward roads with lower, less expensive standards and toward roads that are closed to general public use;*/ both attributes render them inappropriate for most recreational use.

---

*/ Conservationists generally support the closing of logging roads as a mitigation measure to protect wildlife and other forest resources from excessive human disturbance.

This should be self-evident but, in the draft plan for the George Washington National Forest, the Forest Service actually claimed that millions of additional recreation visits would be drawn to the forest by new roads that it planned to close to the public!

As to wildlife, logging can sometimes benefit some species, but generally not the ones most in need of protection. For example, in eastern forests the agency has recently claimed timber-related benefits for some species, such as white-tailed deer, whose populations already match or exceed optimum levels; species that are below optimum levels, such as black bear, are likely to be harmed by logging. In Rocky Mountain forests, logging often cannot benefit major game species, notably elk, because the species are limited by a lack of winter range; through logging, the Forest Service generally can create only additional summer range, which alone has no value.

With regard to the claim of a "healthy" forest, the agency seems to be asserting that younger, recently regenerated trees are more resistant to infestations and mortality than their older counterparts. Yet, there is little social harm in the natural mortality and succession of trees that have little commercial value; such is merely the functioning of a natural ecosystem.

Moreover, it is not even clear that fully managed stands are invariably healthier than those that are unmanaged. For example, research has shown that weevils are primarily a problem not in natural stands but in even-aged management systems in pine. One study has shown infestation to be the direct result of conversion of mixed-aged stands to even-aged management by clear-cutting, site preparation, and planting.*/ Research also indicates that, even where insect populations are present in unmanaged stands, they may be beneficial. A long-term analysis of insect damage reveals that insects "tend to ensure consistent and optimal output of plant production over the long term for a particular site" and that, after initial outbreaks subside, the residual vegetation may be more productive than the vegetation before the outbreak.**/ Finally, where management of stands for pest prevention is necessary, it often can be performed successfully without large-scale cutting. One particulary successful direct control program is being used in stands of old-growth trees in California. Through the use of a risk-rating system to identify and remove high-risk trees (comprising about 15% of the population), infestation has been reduced by 80% for more than twenty years.***/

In sum, the purported side benefits of logging are simply too debatable to justify the huge public investments required to support unprofitable timber sales. This is especially true when the harms frequently associated with below-cost sales, including degradation of visual quality and water quality, loss of habitat for wildlife dependent upon old growth, and loss of opportunities for solitude and nonmotorized backcountry recreation are considered. For detailed discussions of the "healthy forest" rationale and the benefits and harms to multiple uses from proposed below-cost timber sales in specific contexts, see Comments of NRDC et al. on the proposed land and resource management plan for the George Washington National Forest (January 18, 1985) at 15-64; Statement of Reasons of NRDC et al. in support of appeal of the land management plan for the San Juan National Forest (December 5, 1983) at 24-59; Appellants' Reply to Responsive Statement, San Juan appeal (February 23, 1984) at 21-32.

---

*/ S. C. Cade et al., "Seedling Debarking Weevils: A Site Hazard-Rating Case History," Hazard-Rating Systems in Forest Insect Pest Management, USFS General Technical Report WO-27, p. 27.

**/ Matteson, W. J. and Addy, N. J., Science 190 (4214), Nov. 7, 1975, pp. 15-21.

***/ "Richard Smith et al.," California Pine Risk-Rating System," in Hazard-Rating in Forest Insect Pest Management: Symposium Proceedings, USFS General Technical Report WO-27, p. 53.

(7) Allocation of road and investment costs

The problem of cost allocation, particularly with regard to road construction that might benefit non-timber resources and future timber sales, is frequently raised to challenge the relevance of many studies of the receipts and costs of timber production. Those who defend below-cost sales postulate that, if portions of road costs were allocated not to timber but to recreation or other accounts, and if expenditures made for long-range benefits were properly amortized, timber sales from poor sites would be economically justified. On amortization of the Forest Service's road construction costs, some have suggested that, given a 20-year life of an average logging road, as little as 5% of road costs should be charged in any given year to timber.

These arguments totally overlook the substantial number of "worst cases" identified in Ms. Helfand's testimony and research, i.e., those logging programs that regularly lose money even if no road costs or investment costs are counted. For the programs on these worst case sites, accounting refinements are unnecessary and irrelevant.

For sites closer to the margin, there are a number of methods available for resolving these difficulties. First, with respect to long-range investments, present value analysis -- described in Ms. Helfand's testimony -- cures the problem, as it by definition looks to a long period of time for both benefits and costs; the technique is a standard one among economists and readily available to the Forest Service. Other techniques, such as receipts-costs accounting, are useful in identifying patterns over time; while in a single year some long-range investments may unfairly distort receipts/costs ratios, a multi-year perspective should give a reasonably accurate picture of the general economic viability of a program. Regardless of whether some costs can be characterized as investments, those forests that have consistently lost money over a decade or more may fairly be assumed to consist largely of sites that are not profitable for timber production.

Amortization is a refinement of receipts-costs analysis that we would welcome if it were fairly applied. For example, for accounting purposes road construction costs in a given year could be limited to 5% of the total only if 5% of each previous year's road costs were carried forward and also counted.*/ Road maintenance costs, of course, are not properly identified as investment, and should not be amortized.

Second, with respect to allocation of road costs to non-timber accounts, we reiterate that many logging roads are either closed to general use or built to low standards; in such cases it is obviously proper for timber, not multiple-use accounts, to bear the full costs. For roads that will remain open and useful to recreationists, it may be that some fair apportionment is warranted. As noted above, however, the value of logging roads for recreation may be quite limited due to low demand for additional mileage; in such cases any substantial allocation of logging road costs to non-timber resources should be examined with great scrutiny.

As Ms. Helfand has pointed out, there is no one generally accepted rule for resolving these accounting difficulties. The Forest Service should construct a fair methodology to handle the pertinent variables, including those indicated here.

(8) Looking toward a new policy

As noted, on February 26, 1985, the Forest Service announced a series of undertakings to alleviate public and Congressional concerns over below-cost timber sales. Conservationists were

---

*/ *See* Helfand, "Timber Economics and the Planning Process for the San Juan National Forest," Statement of Reasons in Support of Appeal of Plan and EIS for the San Juan National Forest, Tab D, p. 6.

encouraged particularly by the disclosure that the agency was considering raising its minimum acceptable bid for timber to a price that would at least cover the administrative costs associated with the sale. While this would be only a small step -- it would not mandate that the agency cover the substantial costs required for site preparation, reforestation and access -- it at least indicated some sensitivity on the part of the Forest Service to the worst cases of below-cost sales.

To our dismay, even this small step has now been shelved while the agency refines its accounting system. Moreover, our review of alternatives being considered for the accounting system only gives us more cause for concern: the intent seems to be to limit the costs that such a system might consider while inflating the benefits, so that as few sales as possible will be revealed to be below cost.

In our view, the Forest Service badly needs a new policy on timber pricing and site selection that includes the following:

1. The proposal that minimum bid prices should at least recover administration costs should be reinstated at once. This would enable some of the worst cases to be screened out while further policy changes are considered;

2. In developing land management plans, the Forest Service should conduct a timber-specific "economic inventory" of its forest sites. Considering only the anticipated direct costs and receipts of producing timber, as defined in the agency's regulations, and considering all such costs and receipts, the agency should calculate a present value for timber production for

each site. No multiple-use "benefits" should be considered at this stage.

3. Sites that under the above procedure have negative present net values for timber production should be identified as not suited for timber production. Timber production targets for each forest should be set on the assumption that no such sites will be harvested.

4. Harvesting should be allowed from sites identified as timber-unsuited if it is demonstrably necessary for multiple-use purposes or salvage, but only on a case-by-case basis as exceptions to the general rule.

5. When implementation of this procedure would work a hardship on local communities, it should be phased in gradually over the course of a decade.

Conclusion

The attention of the Congress to the problem of inefficiencies in federal timber management is badly needed. Below-cost sales continue to pose a serious threat to forest conservation, to the public treasury, and to private timber growers, yet the Forest Service seems resistant to any hint of a change in policy. We urge this subcommittee to maintain its oversight of the problem and direct the Forest Service to institute the reforms outlined above. We would be pleased to supply the subcommittee with any additional information in connection with its inquiry.

Natural Resources Defense Council, Inc.

1350 NEW YORK AVENUE, N.W.
SUITE 300
WASHINGTON, D.C. 20005
202 783-7800

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10168
212 949-0049

Western Office
25 KEARNY STREET
SAN FRANCISCO, CALIF. 94108
415 421-6561

June 27, 1985

The Honorable Charles O. Whitley, Chairman
Subcommittee on Forests, Family Farms and Energy
Committee on Agriculture, U.S. House of Representatives
1301 Longworth House Office Building
Washington, DC 20515

Dear Mr. Whitley:

On June 5, 1985, we appeared before your Subcommittee at a hearing on the economics of federal timber sales. We testified that, because of inattention to the consequences of selecting certain unprofitable national forest sites for timber harvest, current policy of the USDA Forest Service was wasteful of public funds, prejudicial to conservation uses of the forests, and unfair to private timber growers.

In subsequent testimony, representatives of the timber industry took issue with parts of our presentation. In particular, a number of witnesses stated or implied that it is not poor site selection but the cost of environmental protection that makes many national forest timber sales appear to be economically unsound.

To ensure that the hearing record fairly and completely portrays the issues and our views, we ask that the Subcommittee consider the following supplementary thoughts in connection with the testimony of the industry witnesses.

In its charter for the June 5 hearing, the Subcommittee had asked us to consider whether Congress should regard below-cost timber sales as a major policy concern, particularly in light of claims that environmental protection costs associated with such sales were high. In response, we cited evidence from Pennsylvania's Allegheny National Forest indicating that relatively few federal timber sales may be unprofitable solely or primarily because of the expenses associated with protecting environmental values and non-timber forest uses. We noted that the analysis underlying the draft land and resource management plan for the Allegheny reveals that just 3% separates the economic value of a planning alternative that maximizes timber production while meeting the agency's standards for environmental protection from the value of a similar alternative that fails to meet the standards.

New England Office: 850 BOSTON POST ROAD • SUDBURY, MA. 01776 • 617 237-0472
Public Lands Institute: 1720 RACE STREET • DENVER, CO. 80206 • 303 377-9740

100% Recycled Paper

In our view, such a narrow margin, which may well be typical of forests with ambitious timber programs, will rarely be significant. It is certainly far from sufficient to cover the margin of deficit in those instances, cited in our testimony, where the government does not come close to recovering its costs in selling and accessing the timber resource.

At the national, system-wide level, corroborative evidence comes from the Forest Service's own spending figures. In FY 1984, for example, the agency allocated only 4% of its total timber sales budget to mitigation of the impacts of logging on recreation, wildlife and fish, and soil, air and water.*/

Throughout the Subcommittee's hearing, industry witnesses articulated a position that both Forest Service expenditures and timber purchaser expenditures related to protection of environmental values during logging operations are considerably higher on national forests than on private timber lands. This differential, it is argued, causes Forest Service timber sales of lower economic value and reduced profits for all parties. (See, e.g., Statements of Greg McGuire of Boise Cascade Corporation, James S. Riley of Intermountain Forestry Service and Pete Himmel of the Black Hills Forest Resource Association). By extension, the industry suggests that our testimony understates the impact of environmental protection costs on the economics of national forest timber sales.

The industry's argument is largely anecdotal, and we have found no sound, reliable data that support it. We do not disagree that environmental protection costs may have an effect on the economics of timber sales; however, our position remains that the effect is relatively small and that, in any event, better site selection, not a reduction in environmental standards, is the key to correcting inefficiencies in the federal timber sale program.

Industry witnesses referred to two studies in support of their argument. First, citing a study by R. E. Benson et al., underway at the Forest Service's Intermountain Research Station,**/ the industry infers that the cost to timber purchasers of protecting environmental values during logging, as required by federal purchase contracts, lowers substantially the price purchasers are willing to pay for federal timber. The references appear to be drawn from published Forest Service sources suggesting that the draft Benson report links environmental requirements to a reduction of timber receipts by an average of $37 per thousand board feet in the Intermountain Region.

---

*/ See USDA Forest Service, 1986 Budget Explanatory Notes, p. 155.

**/ R. E. Benson and M. J. Niccolucci, Estimating Costs of Managing Nontimber Resources in Timber Harvesting (Unpublished Research Paper) (1985) (U.S. Forest Service Intermountain Forest and Range Experiment Station).

The Benson study remains unpublished, and we were furnished a copy only after the Subcommittee's hearing. Nevertheless, we have now reviewed the draft study, and have found it to be more supportive of our position that site selection is a critical factor in determining the profitability of timber sales than it is of the industry position that environmental costs are more significant.

Briefly, the Benson study involves an intricate statistical formula that tests the effect of a large number of timber harvest and road construction parameters on purchaser logging costs and bidding behavior. The logging cost and bidding variables are potential determinants of gross timber receipts, and are apparently postulated by the industry to affect the cashflow performance of the Forest Service timber program. No agency costs are entered into the equation, however.

The authors are quite cautious in refraining from making any conclusive "bottom-line" interpretation such as that put forward by the industry witnesses. This is essential, because the study utilizes a "multiple regression" economic model involving many variables (over 100 variables were evaluated in the "nontimber" category alone); as the authors note, such models are typically subject to a high degree of error. Moreover, it is only on the basis of largely theoretical, unproven assumptions that the relatively small increments of "environmental" logging costs cited in the study can be extrapolated to lead to the much larger effects on bidding behavior cited in the industry testimony.

The limitations of the methodology are reflected in the statistical findings which suggest, particularly in the bidding behavior phase of the analysis, a wide range of possible results and relationships among variables that are uncertain at best. The results show, for instance, a positive rather than negative correlation between Forest Service restrictions on road grades and higher purchaser bids. The draft characterizes the overall effect of the road grade variable as "somewhat speculative."

In addition, it is not at all clear that many of the "nontimber" variables assumed in the draft study to explain variation in logging costs and bidding behavior relate exclusively or principally to environmental mitigation. For example, directional log felling is treated in the equation as a "special activity" for soil protection, but is also described as a means of facilitating yarding operations. The presence of mining disturbance, a factor wholly unrelated to timber mitigation, also appears to have been treated as a non-timber variable.

If any unambiguous conclusion can be drawn from the draft Benson study, it is that factors such as environmental mitigation requirements are far less significant determinants of gross timber receipts than factors related to site quality. This is stated outright by the researchers ("... the total impact [of the nontimber resource variables] appears to be relatively small compared to the site and decision variables....") and reflected in the quantitative findings. The data show, for instance, that site variables such as tree size and tree density, in combination with "harvest decision" variables relating to the log cutting and removal process, are four times more powerful than non-timber and "specific activity" variables in explaining total logging cost. This is exactly the point of conservationist testimony on below-cost sales.

Second, industry witnesses also cited (but relied less heavily on) a case study involving the Black Hills National Forest, in which a Forest Service task force concluded that management for multiple uses "can have an adverse effect on the cash flow of the timber program." The Black Hills report makes the generalized claim that management activities to protect wildlife habitat and visual quality "often have the effect of increasing costs or decreasing purchasers' willingness to pay." This analysis offers absolutely no quantitative evidence, however, that the degree of effect suggested by the Allegheny data and the budgetary data is off the mark or that environmental protection costs are a major driving force behind the markedly negative cash flow situation on the Black Hills, a forest dominated by poor commercial timber sites.

Regardless of the extent to which environmental constraints can contribute to inefficiency in federal timber sales, the question of what causes the phenomenon is far less profound as a matter of public policy than the more pertinent question of whether uneconomic timber management should be permitted to continue on such a massive scale. Any differences between environmental mitigation requirements on public and private forest lands in no way constitute a validation of grossly inefficient federal land and resource management.

Indeed, beyond our objection to the Forest Service's indiscriminant selection of locations for timber harvest, part of our mission as a conservation organization is to ensure that harvest operations on productive national forest sites are held to the highest environmental standards, including those embodied in the federal laws and regulations governing Forest Service activities. We would resist vigorously any attempts to produce a positive cash flow on marginal sites by retreating to harmful forest practices that precipitated, for example, the clearcutting reforms of the 1970s.

We need not burden the record with duplicative material; our testimony speaks amply by way of rebuttal to most points raised by the industry witnesses. We maintain that the "environmental cost" defense of below-cost timber sales is misplaced and that no information put forward by the industry or the Forest Service undercuts our assessment that reform of national forest timber sale procedures is badly needed and long overdue.

Sincerely,

F. Kaid Benfield

F. Kaid Benfield
Justin R. Ward
Anne E. Kinsinger

Idaho Environmental Council
P.O. Box 1708
Idaho Falls, Idaho 83401

Statement for the Record of the Hearing on

NATIONAL FOREST BELOW-COST TIMBER SALES,

Held by the House Agriculture Committee's Subcommittee on
Forestry, Family Farms, and Energy,
in Washington, D.C., on June 5, 1985.

Presented by Jerry Jayne, IEC Board Member.

* * * * * SUMMARY * * * * *

NATIONAL FOREST BELOW-COST TIMBER SALES ARE NUMEROUS

The 1984 GAO study of 4 N. F. Regions for 1981 and 1982 found the majority of all timber sales below cost, with a net loss to the government of over $52 million.

MANY BELOW-COST SALES DAMAGE RESOURCES, CREATE CONFLICTS

Many below-cost sales and associated timber access roads damage habitat, fisheries, water quality, roadless recreation, and jobs dependent upon those values.

Below-cost sales in roadless areas ignore economic reality and create unnecessary wilderness/timber conflicts.

The F. S. is on a timber road-building rampage, and has no intention of reforming.

RECOMMENDATIONS

1. Eliminate most of the F. S. Capital Investment funding.
2. Instruct the F. S. to obey Section 6(k) of NFMA, which requires economic suitability criteria for timber lands.
3. Require the F. S. to do a more useful and honest economic analysis.
    a. Show comparison of dollar benefits to government and dollar costs to government.
    b. At a second level of economic analysis, show all dollar costs and all dollar benefits, including in the former habitat and fishery losses, and related job losses.
    c. F. S. should use a realistic discount rate, not 4%.
4. The F. S. should not waste money preparing timber sales which are obviously well below cost and/or which obviously threaten other forest values.

NATIONAL FOREST BELOW-COST TIMBER SALES ARE NUMEROUS

The 1984 GAO economic study of timber sales in 4 National Forest Regions for fiscal years 1981 and 1982 found that the **majority** of all sales in the 3 Rocky Mountain Regions were below-cost, and that the timber program for each Region lost a significant amount of money (GAO/RCED-84-96, "Congress Needs Better Information on Forest Service's Below-Cost Timber Sales", 6/28/84). In Region 1 (Northern Idaho and Montana), the net loss for both years together was $28.590 million, with 60% of the sales below-cost. For Region 4 (Southern Idaho, Nevada, Utah, and western Wyoming), the net loss for both years was $23.783 million, with 93% of the sales below-cost. (See Attachment page A-1 for more detail.)

On the 10 National Forests in Idaho, there were 115 sales showing a gain of about $10 million for the 2 years, and
204 sales showing a loss of over $35 million, or a net loss of over $25 million.

For this study, the GAO included under benefits the cash paid for timber and purchaser credit roads. Under costs, they included sale preparation and administration, road engineering and construction costs, reforestation costs, and payment to the counties.

For timber management, the Targhee National Forest in eastern Idaho is a certainly "below-cost" Forest. I have tracked 17 sales of interest which have been sold on the Targhee during the past 4 years. Under timber benefits, my simple economic analysis includes cash for the timber; under costs, it includes only sale preparation and administration cost, and road construction cost. It does not include costs for reforestation, road engineering, or anything else. Even so, all but 3 or 4 of the 17 sales appear to have lost money for the government. The total loss for the 17 sales, just counting road construction cost and sale preparation and administration cost, comes out to over $1.3 million. For some of these sales, receipts do not even cover the cost of sale preparation and administration alone.

And receipts to the government for some of these timber sales on the Targhee N. F. may be even lower than reflected in the bid price. If the lodgepole pine dies during the period of the timber contract and before it is cut, the purchaser pays only dead price, not the higher live price he bid. This appears to have been a major consideration in at least 2 of the 17 sales, where the bid is highly skewed. On one sale, the Boone Creek Sale, the purchaser bid an unheard of price of $205/MBF for the live lodgepole pine. The sale was awarded to him 4 years ago, but has not been cut yet. The purchaser has obtained an extension of his contract, and there is a good chance much of the lodgepole pine will be dead by the time he cuts it. I realize that "Skewed Bidding" is another issue, with which you have probably already grappled. But I mention it here because it does relate to the below-cost issue. On the Boone Creek Sale, it means that the government may not get the $91 thousand bid for the timber, but instead may get as little as $3 thousand.

MANY BELOW-COST SALES DAMAGE RESOURCES, CREATE CONFLICTS

There may be legitimate reasons for the existence of some below-cost National Forest timber sales, and we are not objecting to all of them just because they lose money. However, a great many of these sales damage other multiple use values, and create conflicts with management for those values. To these we do object.

Following are examples of 2 destructive below-cost sales, one a large project and the other a smaller project:

1. Jersey Jack Sales, Nezperce N. F.

   This area is just north of the Salmon River Breaks and south of Elk City, Idaho. It is very valuable elk habitat. Appealed by the National Wildlife Federation, who argued that the proposed roads and timber sales would harm elk habitat, economically harm local outfitters, and would lose the government $4.5 million. (Attachment page A-2)

2. Big Eightmile Sale, Salmon N. F.

   The area is on the east side of the Lemhi Range and west of Leadore, Idaho. There is a large diversity of habitat types, with elk, deer, antelope, goats, bears, coyotes, bobcats, grouse, golden eagles, and other raptors present. The proposal is to build 3 miles of new road with appropriated funds and sell 1.3 MMBF of Douglas fir. One question raised by an appeal regarded regeneration. The F. S. estimated that the Dougfir cuts could be regenerated on scarified sites within 5 to 10 years, and on unscarified sites in 12 to 20 years. The Idaho Fish & Game Department said that "The cutting units are located in stringers of Douglas fir which are important elk calving and deer fawning areas", and that "This sale will have definite adverse impacts to big game." The Environmental Analysis (EA) does not furnish an adequate economic analysis, only that the timber appraises at a deficit of $208/MBF.

New roads in the National Forests are frequently unwise for 2 reasons. One is resource damage and the other is their large contribution to the spawning of many below-cost timber sales. The great majority of new roads built in the National Forests now are for timber access. Contrary to the Forest Service's incredible claims, these roads in the National Forest do frequently cause damage to wildlife habitat, water quality, fisheries, recreation, and jobs related to hunting, fishing, and other outdoor recreation.

Elk are a dramatic animal, and can be considered as a good "indicator species", representative of many wilderness species. Probably because they have considerable economic value as well as aesthetic value, they have been studied a great deal. And the studies have shown overwhelmingly that roads destroy elk habitat and reduce elk populations. (Attachment page A-3)

The Forest Service policies that create so many below-cost timber sales also create unnecessary conflict between timber and wilderness. In 1978, Thomas Power, Associate Professor at the the University of Montana Economics Department, on request of the Montana Wilderness Coalition, did a report entitled "Alternative W and the RARE II Process in Montana: A Brief Economic Analysis". What Power says about logging Montana roadless areas would apply also to most Idaho N. F. roadless areas, and indeed, probably also to most N. F. roadless areas in the Rocky Mountains at least:

> "In allocating lands and funds to timber management, the F.S. ignores the most fundamental economic principles. It does not consider the costs or economic benefits associated with different types of forests or sites. The F.S. seeks to bring all of the National Forest under management, subject only to the constraints that the site be able to support trees and that the basic land base not be permanently damaged. It ignores the costs of management and then prices the commodity in such a way that the timber industry and wood product users are also encouraged to ignore the costs of management. The results of this approach are that the F.S. seeks roaded access to almost all timber stands and so does the timber industry."
>
> "If in allocating its forest management budgets and forested lands, the F.S. took into account the costs of management as well as the value of the commodity flows, it would never enter most of the remaining roadless areas in Montana, but would instead concentrate its efforts on the more productive already roaded areas. If the timber industry had to pay stumpage prices which reflected the full costs to the F.S. of managing the sites for timber instead of a price which guarantees a 'normal profit', they would not be interested in further sales in most of the remaining roadless areas."
>
> "Apparently, the only type of management which the F.S. sees as 'real' management is roaded development for timber, whatever the cost and however marginal the timber returns. It is this economically irrational compulsion to develop almost all areas and sell the timber at below the costs of production that unnecessarily creates the timber-wilderness conflict. No such conflict need exist if economically productive timber lands were focused on."

In spite of the fact that new forest roads are the bane of wildlife, and that most of the timber sales in the roadless areas will be below-cost, the Forest Service is planning high levels of timber harvest, road building, and roadless area development in the draft Forest Plans seen to date for Idaho.

The Targhee National Forest draft Plan Supplement calls for 1,030 miles of new roads over the next 45 years, an increase of 58% over the current mileage. Most of these roads would be paid for by appropriated funding.

The Caribou N. F. proposes to develop 254,000 acres of roadless land by the year 2000, in order to sell 11.5 MMBF of below-cost timber sales per year. The Idaho Fish & Game Department and other conservation-minded people are dismayed by this, because much of this land is valuable habitat for elk, moose, and other wildlife. Another incomprehensible aspect of the plan is the fact that another alternative evaluated by the F. S. (and one supported by many conservationists) would only need to develop 47,000 acres of roadless land by year 2000, but would still offer 9.2 MMBF of timber per year. It would also have a lower net cost to the government.

The recently released draft Forest Plans for the 3 National Forests in north Idaho are even worse than those of the Caribou and Targhee. The Nezperce N. F. proposes to triple its current road system mileage and develop 300,000 acres of roadless area in the next 45 years. The Panhandle N. F. wants to build over 7,000 miles of new road and develop 458,000 acres of roadless land. And the Clearwater N. F. plans to build nearly 5,000 miles of new road and develop over half a million acres of roadless area. Altogether, these 3 National Forests are proposing to build over 16,000 miles of new road over the next 45 years, more than doubling their current road mileage, at a cost in excess of $1 billion. Most of this cost would be borne by the taxpayers, since timber revenues wouldn't begin to cover road costs.

The draft Forest Plans seen so far in Idaho would, if implemented, devastate fish and wildlife. The 3 Forests in north Idaho propose the roading of over a million acres of Idaho's finest elk country. These plans represent what is probably the greatest assault on elk habitat in Idaho's history.

Idaho is no isolated example of the Forest Service's road building mania, which has become a national scandal. According to Forest Service Annual Reports, the average annual mileage built in the National Forests in Idaho was 909 miles, and the annual mileage built in the entire National Forest System was about 10 times this, or 9,210 miles. According to the 1975 draft RPA Plan, the nationwide N. F. road system consisted of 220,000 miles; the 1985 draft RPA Plan showed a total of 330,000 miles, or a startling increase of 50% in just one decade! What is even more disturbing are Forest Service plans to continue this mad rate of road building, as evidenced by the draft Forest Plans the public has seen to date, and by the 1985 draft RPA Plan. The latter projects roughly 10,000 miles of new N. F. road annually, clear to the year 2030! Even though the 1985 draft RPA Plan evaluates 9 alternatives, none of them involves less than 6,500 miles per year.

It is thus imperative that Congress do something to stop the Forest Service road-building and timber juggernaut. The Forest Service will cheerfully continue spending all the money they can get Congress to appropriate, most of it for roads and timber sales.

RECOMMENDATIONS

1. Eliminate most of the F. S. Capital Investment funding.

   The F. S. uses the bulk of this amount, now about a quarter billion dollars a year, for building more timber access roads. But these roads lead to the destruction of habitat and the increase in below-cost timber sales.

2. Instruct the F. S. to obey the law, in particular Section 6(k) of the National Forest Management Act. This section says:

   > "In developing land management plans pursuant to this Act, the Secretary shall identify lands within the management area which are not suited for timber production, considering physical, economic, and other pertinent factors to the extent feasible, as determined by the Secretary, and shall assure that, except for salvage sales or sales necessitated to protect other multiple-use values, no timber harvesting shall occur on such lands for a period of 10 years."

   In the draft Forest Plans seen so far, the F. S. has ignored economic factors in identifying suitable timber land. The F. S. idea of "economic efficiency" is straight out of Alice in Wonderland. Their idea, which comes down from former Assistant Secretary of Agriculture John Crowell (Economic Policy Statement of John Crowell, Oct. 10, 1983, sent to Regional Foresters, Washington Office Staff, and Forest Supervisors), to the 1985 RPA draft Plan, to the individual draft Forest Plans, is to first define management alternatives without regard to the economic factors mandated by Section 6(k), and then to figure out the most cost-effective way of implementing each alternative.

3. Require the F. S. to do a more useful and honest economic analysis.

   Both draft RPA plans and draft Forest Plans usually display an economic analysis which is worthless, or even misleading from a standpoint of showing if the proposal is nationally cost-effective or not. What is frequently shown is total discounted benefits and total discounted costs, and the difference of the 2, or the Present Net Value. But PNV thus calculated gives no indication of economic efficiency. Benefits are assigned to scattered segments of society, such as timber purchasers, graziers, and recreationists. Although most of the dollar costs are to the government, most of the dollar benefits are not.

   a. The F. S. should show the comparison of dollar costs to the government vs dollar benefits to the government. This should be done in RPA Plans, Forest Plans, and in the EA's for individual timber sales and other proposed projects. This should not be difficult, as the 1984 GAO Report has shown.

b. A second level of economic analysis should show all the quantifiable dollar benefits and costs, not just those to the government. The Forest Service has been doing this with benefits, but has often neglected to include dollar costs other than to the government. In this level of analysis, they need to include such costs as damaged habitat, fisheries, and loss of jobs related to hunting and fishing.

c. The F. S. should use a realistic discount rate. Their use of 4% is ridiculous, and tends to make high-output timber alternatives look better than they really are.

4. On individual timber sales -

a. The F. S. should not waste money preparing sales that are obviously far below cost, and/or obviously threaten other forest values.

b. The minimum bid should be set such that F. S. costs, including road costs, are recovered, or nearly recovered.

c. The EA should show the dollar benefits and dollar costs to the government. If future timber sale entries are planned using a proposed road system, the economics should be shown up front in the first EA. I can recall seeing only 1 EA where discounted benefits and costs were calculated for future timber sales planned using the road system for the initial sale. Perhaps the fact that the whole project only showed a B/C Ratio of 0.45 indicates why the F. S. seems reluctant to do this analysis on multiple entries.

d. The F. S. should summarize and publicize more post-sale information.

e. The F. S. should also follow up sales with public information on regeneration.

5. The F. S. must be reminded that the quest for less economic waste in its timber program is not a licence to cut corners on environmental protection.

(Attachment follows:)

A-1

GAO STUDY SHOWS OVER HALF OF IDAHO N.F. TIMBER SALES ARE BELOW-COST

A recent General Accounting Office report(1) shows the results of an economic study of timber sales for four National Forest Regions in fiscal years 1981 and 1982. (Timber prices were generally high in 1982 and generally low in 1981; taken together, both years are fairly representative of prices.) GAO analyzed all 3,244 timber sales for the four Regions for those two years, and found that while the overall revenues exceeded costs by $712 million, there were many below-cost sales in the three Rocky Mt. Regions.

GAO found that below-cost sales generally occurred in F.S. Regions that had mostly low productivity timberlands, low sales values for predominant tree species, and relatively low volumes of timber sold. Such sales tended to be in areas with steep terrain, which increases harvesting costs, and involve high road engineering and construction costs. Lower quality timber brought significantly less per MBF, even by a factor of 50 or 100 or more, than higher quality timber in Region 6 (Washington and Oregon). As expected, the most profitable sales, and the bulk of the volume, came from Region 6.

A major reason given by the F.S. for selling so many below-cost sales is that they remove low valued timber stands and replace them with higher valued stands, leading to future sales that would recover losses on the initial sales. At the Forest Service's suggestion, GAO tested this argument on eight below-cost sales selected from eight different National Forests. They found the argument invalid because, in each case, the net present value of the next stand of timber showed a loss.

NATIONAL FOREST TIMBER SALES IN IDAHO -

SUMMARY OF GAINS AND LOSSES FOR FISCAL YEARS 1981 AND 1982(1)

(All amounts are in thousands of dollars)

National Forest	FY 1981				FY 1982				Total, Both Years			
	Sales Showing Gains		Sales Showing Losses		Sales Showing Gains		Sales Showing Losses		Sales Showing Gains		Sales Showing Losses	
	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.
Clearwater	16	$1,001	17	$2,841	6	$ 97	22	$3,005	22	$1,098	39	$5,846
Panhandle	44	6,216	22	3,245	29	2,391	34	4,891	73	8,607	56	8,136
NezPerce	5	21	5	1,400	4	16	16	3,487	9	37	21	4,887
Subtotal, Reg. 1 Id.	65	7,238	44	7,486	39	2,504	72	11,383	104	9,742	116	18,869
Boise	1	$ 13	9	$2,273	0	$ 0	13	$2,760	1	$ 13	22	$5,033
Payette	5	7	5	2,360	3	3	11	2,657	8	10	16	5,017
Sawtooth	0	0	2	130	0	0	6	463	0	0	8	593
Challis	0	0	2	152	0	0	4	81	0	0	6	233
Salmon	0	0	5	1,503	0	0	0	952	0	0	13	2,455
Caribou	0	0	6	505	0	0	3	335	0	0	9	840
Targhee	2	66	6	1,175	0	0	8	1,311	2	66	14	2,486
Subtotal, Reg. 4 Id.	8	86	35	8,098	3	3	53	8,559	11	89	88	16,657
Total Idaho	73	$7,324	79	$15,584	42	$2,507	125	$19,942	115	$9,831	204	$35,526

---

(1) GAO Report, "Congress Needs Better Information on Forest Service's Below-Cost Timber Sales", GAO/RCED-84-96, June 28, 1984. The above information is from Appendix II, "National Forest Timber Sales -Regions 1, 2, 4, and 6; Summary of Gains and Losses for Fiscal Years 1981 and 1982."

A-2

$4.5 million loss estimated for logging project

In view of current controversy over money-losing timber sales in Idaho forests, it is useful to consider an affidavit filed in U.S. District Court. This document describes the economics of plans to road and log the Jersey Jack roadless area by the Nez Perce National Forest.

The author is Richard A. Stahl, a consulting forester. In 1980 Stahl was hired by the Forest Service to conduct seminars in forest planning for Forest Service personnel. From 1980 to 1982 he worked as a consultant for the Associated Oregon loggers.

Stahl is now a consultant for the National Wildlife Federation. The NWF is opposing plans to road and log the Jersey Jack area on grounds the activity will destroy habitat for elk, and contribute to siltation of streams.

Using the most optimistic assumptions about the value of the timber, and the potential volume, Stahl concluded that logging Jersey Jack would return in a net loss of $4.5 million, over 20 years.

In addition, there would be damage to habitat for elk, and a serious economic loss to back country outfitters who now gross about $500,000 in this area. The Forest Service, of course, did not consider the economic loss in destruction of elk habitat and loss of back country outfitting when it planned the timber operation.

Stahl based his figures on likely road costs on data from the Nez Perce Forest. Cost of the major road is put at $1.5 million, with $110,000 per mile for local roads. Local roads would cost $8,065,750.

Estimated revenue from removal of 88 million board feet of timber falls $2,701,298 short of road costs. When you add the cost of site preparation, sales and reforestation, plus road maintenance costs, you get a net loss of $4.5 million.

The 88 million board feet figure is higher than the one used by the Forest Service. Stahl uses the highest estimate available on the economic value and volume of timber. He still comes out with a very large loss for logging an area of 11,000 acres.

Fish and Game estimates the value of deer and elk habitat at $700,000 per year. Large amounts of money are spent by hunters, particularly elk hunters. There is also the matter of the income of the outfitters of about $500,000 a year.

Currently the Forest Service is distributing nationally a "fact sheet" on deficit timber sales. This "fact sheet" suggests that construction of roads for logging is invariably beneficial to wildlife, as well as recreation. The quality of the Forest Service fact sheet is approximately equal to the quality of the Nez Perce Forest analysis that resulted in plans to road and log the Jersey Jack area.

Jersey Jack adjoins the Salmon River on the north side. It was proposed for inclusion in the River of No Return Wilderness. The late Sen. Frank Church left it out of the wilderness in an effort to accomodate the timber industry. Nevertheless, it is not suitable for logging. And it is extremely valuable for wildlife.

Some of the roadless areas which Sen. McClure proposes to open to roading and logging in the current wilderness controversy have qualities similar to Jersey Jack. They are extremely valuable as habitat for big game and other wildlife. Roading them means severe destruction of wildlife. And they can't be logged without a large subsidy from the U.S. taxpayer.

Idaho Falls Post Register, August 9, 1984. By Ken Robinson

Lewiston Tribune/Wednesday, August 8, 1984

Court temporarily enjoins Jersey Jack logging road

Associated Press

SAN FRANCISCO — The 9th Circuit Court of Appeals has granted a request for a temporary injunction against construction of a logging road in the Nezperce National Forest, and a Forest Service attorney says it could mean a delay of at least a year in developing the area's timber potential.

Mike Axline, the attorney for the 34 individuals and groups appealing a federal district court decision last month, said the Circuit Court on Tuesday granted a 60-day injunction enjoining the Forest Service from "taking further action with respect to the contract for construction of the Jersey-Jack Road, and activities intended to facilitate construction."

Axline, from Eugene, Ore., said his clients, mostly environmental groups, ranchers, outfitters and guides, were "very pleased with the decision."

But Jeff Ring, an assistant U.S. attorney representing the Nezperce Forest in the suit, said halting construction of the road, which was to begin Aug. 15, was a serious setback to plans to harvest timber in the area.

"It delays everything by at least one year, in terms of harvesting timber and any other uses for the area that the road was going to provide," Ring said.

Axline's cets claim the Forest Service violated the National Environmental Policy Act and the Endangered Species Act by failing to prepare an environmental impact statement before building the controversial forest road.

They also allege Forest Service officials failed to formally consult with the U.S. Fish and Wildlife Service about what effects road-building and logging in the area would have on the endangered Rocky Mountain gray wolf.

The Forest Service in 1981 decided to build a road into a 41,000-acre segment of the Nezperce Forest about 58 miles southeast of Grangeville. After considering several alternatives, the Forest Service decided to build 14.2 miles of new road and use 1.18 miles of existing road.

The area involved is between the Dixie Summit and the Lowman Saddle.

U.S. District Judge Marion Callister of Boise in May ruled that the Forest Service was not required to make a full environmental impact statement before building the road, and on July 16 denied a request for an injunction against the Forest Service. The case was appealed to the Circuit Court in San Francisco.

Axline said he argued before the Circuit Court that if the road were built "irreparable injury would occur to the Rocky Mountain gray wolf and to the roadless character of the Jersy-Jack area."

The injunction was filed in an attempt to stop construction of logging roads in the area until the Circuit Court can reach a decision on the legality of timber sales in the Nezperce National Forest.

Axline said his clients were opposed to the Forest Service developing and selling timber stands that could not be economically harvested.

"They want to stop the Forest Service from developing the area until it's economically feasible to do so," he said. "They want to ensure protection for the Rocky Mountain gray wolf and they want the Forest Service to put on the table in an EIS (environmental impact statement) its entire plan for developing the area."

That case should come before a three-judge panel of the Circuit Court within the next three to four months, Axline said. Ring said he would be filing briefs on behalf of the Forest Service in that case within the next few weeks.

Idaho Falls, Id.
Post Register

A-3
1/3/85

Wilderness roads pose danger to elk habitat

Ken Robison

The relationship of roads to elk has been extensively studied by biologists in several western states. The evidence is overwhelming. Roads destroy elk habitat. Elk avoid roads and the traffic that comes with roads drives elk away.

As the acreage of wild forest land in Idaho has been shrinking with expansion of road construction, quality elk habitat has been shrinking.

This is one reason the Idaho Fish and Game Commission is so concerned about efforts to push roads into roadless areas with sizeable elk populations. We have already lost much of the good elk habitat in Idaho. Now we stand to lose much more.

Of the seven million acres of roadless lands at issue, the Fish and Game Commission recommended wilderness designation for 1.8 million. Wilderness designation would keep roads out, and protect the habitat for elk.

Studies show that roadless areas not only provide elk populations for the roadless areas. The roadless areas also supply elk that are found in roaded areas.

The recognition of the destructive impact of roads on elk has been recognized only relatively recently — even in wildlife management circles.

In the 1970s, researchers and wildlife managers began to examine the relationship of declining elk populations to roads. Biologists began to study specific elk populations in specific drainages, with the help of radio collars. Managers began to compare the success of elk hunters in roaded areas and unroaded areas.

And, in Idaho, researchers asked the hunters themselves what they thought.

First of all, roads reduce the available habitat. The land area useful to elk or other wildlife shrinks. A roadway one mile long by 50 feet wide consumes six acres.

Second, studies show that elk avoid roads. They put distance between themselves and roads. If you have a road in a valley, the elk may move over the ridge, and not come back.

Thomas Leege studied the relationship of roads and elk in the Pete King drainage of the Lochsa River. He compared it to a nearby unroaded drainage. With roads and logging of 60 percent of the Pete King drainage, winter elk counts dropped 80 percent.

During the years 1968 through 1972, the take of elk by hunters was 68 percent less in Pete King than in the nearby unroaded drainage. Hunter success fell in both drainages. But it dropped 60 percent in the roaded drainage, compared to 10 percent in the unroaded drainage.

Construction of the Lewis-Clark Highway greatly improved access to the Lochsa River country. But the quality of hunting dropped sharply. Before 1962 the elk harvest averaged 1,600 to 1,800. Immediately after the road was opened it dropped to 914, and then fell off further to an average of 670.

The number of elk taken by hunters dropped 60 percent, though the number of hunters remained approximately constant.

After a road was constructed along the Thompson River in western Montana, elk use of a wintering area dropped from high to almost nothing. Oregon biologists found a loss of quality and quantity of habitat in two management units, in a 1973 report.

Harvest of old growth timber in western Oregon has reduced habitat for the Roosevelt elk.

In a 1973 survey of game departments of western states, and Canadian provinces, every state and province with large elk numbers reported damage to elk habitat by roads. Those states also reported that the larger elk populations are associated with roadless, wilderness or less accessible areas.

All of the larger elk producing states and provinces reported instances where elk herds declined, or changed distribution, as a result of recent road construction and related increases in human activity.

A study of radio-collared elk in the Sawtooth Forest in Idaho showed elk avoid areas within three quarters of a mile of roads. They preferred roadless areas beyond two miles from a road.

Jerry Thiessen's study in the Boise River drainage showed that hunter success ranged from 6 to 25 percent in roadless areas. It was only 2 percent in roaded areas.

University of Idaho researchers surveyed hunters statewide on a number of issues in 1973. Most of the hunters said there were enough roads, or too many roads. Seventy-five percent of the Idaho resident hunters and 73 percent of the non-residents thought no more roads were needed. Only 10 percent thought more roads should be built.

The more experienced hunters tended to have a stronger feeling against roads than less experienced hunters.

Since that survey was done, the Forest Service has pushed roads into many previously roaded areas. And the McClure-Symms-Craig wilderness bill would open 93 percent of the remaining unprotected roadless forest lands to roads.

While the research clearly shows that roads destroy elk habitat, we don't know the whole story. We don't know just what the McClure bill would do. The loss of elk is not temporary, if habitat is destroyed or impaired, it is permanent.

No one can be sure that the 1.8 million acres which the Fish and Game Commission is defending is enough.

Idaho is one of only six states that still has enough elk to allow elk to be legally hunted. Elk have been pushed out of much of their former range in the West.

Any wilderness bill does not mean more wilderness, more wild country. It means less. The question is what portion of seven million acres of wild land will remain wild? How much elk habitat do we lose?

The McClure-Symms-Craig wilderness "solution" is the greatest threat to wildlife in Idaho in many years.

colorado
open
space
council
2239 E. Colfax Ave., Denver, CO 80206 393-0466

BEFORE THE HOUSE AGRICULTURE COMMITTEE
BEFORE THE FOREST MANAGEMENT OVERSIGHT SUBCOMMITTEE
TESTIMONY OF ROCKY SMITH

June, 1985

Hello. I am Rocky Smith and I am representing the Colorado Mountain Club and the Colorado Open Space Council. The Colorado Mountain Club (CMC) is a recreation and conservation organization of more than 8,000 people in 12 Colorado cities and towns. The Colorado Open Space Council (COSC) is Colorado's statewide environmental coalition consisiting of approximately 25 groups and 1200 individuals for a combined membership of more than 30,000 people.

Members of CMC and COSC are very concerned about below cost timber sales. Such sales not only lose a considerable amount of money for the Treasury but also harm or destroy aesthetic values that are very important to Colorado.

I would like to spend most of the rest of my time today discussing one particular area in Colorado where below-cost timber sales are planned. I wish to emphasize, however, that this area is not atypical for Colorado. Rather, it is but one example of the problems associated with below-cost timber sales.

The Troublesome area, (sometimes also called Arapaho Creek) contains approximately 87,000 acres aand lies in north-central Colorado northwest of the town of Kremmling. Though a small part of it lies on the adjacent Arapaho National Forest, the entire area is administered by the Routt National Forest.

At present, the area is used extensively for hunting, fishing, hiking, cross-country skiing and other forms of non-motorized recreation. It is a favorite area for these activities for many people. Though private ranches border the area in many places, public access is adequate for reaching most of the area.

In the Routt National Forest Draft Land Management Plan, released in November of 1982, the Forest Service proposed to build roads and cut timber in three differnt places. In total, 21 miles of roads would be built and 26 million board feet of timber would be cut.

There is little doubt that these sales will lose money. Analysis by the appellants has shown that the three sales will lose a total of approximately $600,000. The propensity of many national forests, especially in Colorado, to lose money on timber sales has been well documented. I refer you to GAO Report 84-96 and to the Wilderness Society's "Below-Cost

"Humanity belongs to earth, not earth to humanity"

Timber Sales on the National Forests". In addition, the Forest Service freely admits that most of its timber sales lose money. This admission is found in every final land management plan the Forest Service has issued in Colorado. The Forest Service's proposals for the Troublesome area generated a great deal of controversy. Many people wrote letters to the Forest Service to express their opposition to the proposed timber harvesting in Troublesome. Many also expressed opposition to the emphasis on logging in the draft Routt Forest plan. But despite the intense opposition, the Forest Service did not change its proposals for either the Troublesome area or the Routt Forest in preparing the final management plan, which was released to the public in November of 1983.

The timber harvesting and road construction proposed for Troublesome continue to generate controversy. Many people have written to elected officials and/or Forest Service personnel to protest. Many area residents, including the Grand County Commissioners and the Kremmling Town Council have voiced opposition. The final Routt Forest plan, and the proposals for Troublesome in particular, have been appealed by six groups, including COSC. This appeal has been before the Chief of the Forest Service for more than a year but there has been no decision. In spite of the fact that a stay of decision was granted pending resolution of the appeal, preparation for the sales continues. I am submitting for the record a letter from the Distict Ranger in Kremmling that details the preparation activities. It appears that the Forest Service has decided to proceed with the sales in spite of the appeal and stay of decision, as they are continuing to spend money on preparation.

There is little question that the road construction and logging will harm the attributes that make the Troublesome area valuable now. The presence of motor vehicles will make the area a less desirable place to visit for those seeking quiet and solitude. The timber cuts are likely to be very unsightly for these people. Noise from bulldozers and chainsaws will scare away deer and elk. Erosion from clearcuts and roads may find its way into the streams and damage the fisheries in the area.

Many people choose to live in Colorado for the values presently found in Troublesome, the very values that will be damaged if the Forest Service's proposals are implemented. As the population continues to grow, large primitive areas like Troublesome will be even more highly demanded. The

Forest Service's Rocky Mountain Regional Guide predicts an annual increase in the demand for wilderness recreation of six to seven percent. A study by the Colorado Mountain Club found that all forms of recreation (of which primitive, non-motorized recreation is a significant part) contributed over one billion dollars to Colorado's economy in 1983.

Is the wood fiber that could be harvested from Troublesome needed so badly that we should sacrifice all the other values of this beautiful area? Hardly. At present there at least 70 million board feet of timber under contract on the Routt National Forest but uncut. The adjacent Arapaho National Forest has approximately 36 million board feet under contract but uncut. The market for timber is glutted; more timber is not needed at present. Yet the Forest Service, here and all across Colorado, insists on offering more and more timber for sale, as every final national forest management plan for Colorado prescibes an increase in the timber volume offered. The market appears to be so glutted right now that it is likely that some of these sales will not be bid on by anyone. However, the Forest Service will still spend money on preparing them. Worse yet, some of these sales will be scheduled for primitive, unroaded areas like Troublesome.

The road and timber proposals for Troublesome, if implemented, would have one other very unfortunate result: they would destroy a ranch run by an elderly woman who is dependant on income from her ranch for her survival. I submit for the record a letter from Ms. June Swanson detailing her concerns.

Again, I wish to emphasize that Troublesome is not at all an unusual situation for Colorado, nor is it, if I understand correctly, unusual for many western states.

During public participation associated with development of the Forest Service land management plans and the subsequent appeals, a large number of people have expressed an opinion. The great majority of these people have opposed the Forest Service's plans for increasing logging in Colorado. Many, including the Colorado Department of Natural Resources, have asked the Forest Service to plan for recreation first, citing the fact that all forms of recreation constitute by far the biggest and most important use of Colorado's national forests. But these public protests have fallen on deaf ears. The Forest Service continues to press harder than ever to implement its proposals to increase logging. And almost all of these sales will not recover the Forest Service's cost; most of them won't even come close to doing so.

And that is why I am here before you today, to ask that you direct the Forest Service to stop the practice of below-cost logging. You should require all Forest Service timber sales to at least recover the government's costs (including all road construction), unless it can be conclusively proven on a site-specific basis that below-cost logging must be done to protect forest resources.

I greatly appreciate the opportunity to testify before this committee.

(Attachments follow:)

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Middle Park Ranger District
P.O. Box 278
Kremmling, Colorado 80459

April 17, 1985

Troublesome Rare III
Attn: Mr. Richard W. Wahl
7302 Birch Avenue
Takoma Park, Maryland 20912

Dear Rich:

I received your March 30, 1985 letter on April 11, 1985. I will attempt to answer the questions in the order that you asked them.

1. The dates that you listed are stated as such in the Routt Land Management Plan. At this point in time the Forest Plan needs to be amended to reflect changed dates. However, amendment to the plan must await the decision on your appeal. For planning purposes in our 5 Year Timber Sale Action Plan, Timber Creek is scheduled for 1989 and Ethel Creek for 1990. Those proposed sale dates will be re-evaluated during the annual review of our 5 Year Action Plan The Gilsonite Road construction may be rescheduled, depending on the appeal decision.

2. Timber management activities that have taken place are: (a) timber inventory (Stage II) - additional inventory is planned this year in the "stay" area; (b) general and site specific field reconnaissance by various resource specialists (e.g. hydrologist, wildlife biologist). This activity will continue to occur in 1985 and 1986; (c) the Gilsonite Road survey; (d) potential road location reconnaissance work for the tentative Ethel Creek and Hay Park Timber Centers.

3. Other activities that have been undertaken in the area are listed below. They are either activities that occurred through prior right, or are consistent with terms of the "stay".

a. Oil and Gas Exploration

(1) During the summer and fall of 1983 a short temporary access road was built along with the construction of a drill pad, as shown on the enclosed map entitled "Exhibit A". This lease was in effect prior to your appeal. Drilling was completed in the summer of 1984. Rehabilitation of the drill site and access road is scheduled for the summer of 1985.

(2) The drill site installed by Voyager Petroleum in 1982 in NW¼, Sec. 14, T3N, R79W, was seeded, fertilized, mulched and contour furrowed in the summer of 1984. The pad was located adjacent to the East Fork leading to Cow Camp.

b. Range and Wildlife Management Activities:

(1) 75 acres of sagebrush control were completed in the summer of 1983 on the Troublesome grazing allotment.

(2) 50 acres of sagebrush control was completed in the summer of 1984 on the Troublesome grazing allotment.

(3) 100 acres of sagebrush control was scheduled for the Pete Gulch grazing allotment during the summer of 1984. Fifty acres were completed and the remaining 50 acres are scheduled for completion during the summer of 1985.

(4) Twenty acres of range land was reseeded at the mouth of Timber Creek in 1984 (map enclosed).

(5) Fence maintenance took place during 1983 and 1984.

c. Trail Construction Activities:

The trail between Hay Park Creek and the headwaters of the East Fork was completed in 1983 as well as the reconstruction of the Wheatley Creek Trail.

4. As per your request, I will inform you of Environmental Assessments, Impact Statements or public hearings involving transportation planning, road construction or timber sale activities in the Troublesome area. Frankly, Rich, we are just biding our time waiting patiently for a decision on your appeal. Once we have a decision, we will act accordingly.

If you need clarification or more specific information concerning the Troublesome, please let me know and I will try and provide the answer.

Sincerely,

Roger M. Corner

ROGER M. CORNER
District Ranger

Enclosures (2)

cc: Routt N.F., S.O.

Jan. 11 1985

The Hon Mike Strang
U S Congress
Washington D.C.

Dear Congressman Strang,

First, I want to congratulate you on winning your seat in Congress.

Mike, I have a serious problem that I would like to bring to your attention and you being a rancher like myself, I believe you can understand my situation.

I am a 66 yr. old self supporting woman owning a small 880 acre ranch which is my only source of income.

My property has been selected by the U S Forest Service for access into one of their proposed logging areas for the purposed of transporting logs to a Louisiana Pacific sawmill in Kremmling, Colorado.

I am opposing this proposed road, which if pushed thru, will rip my property from one end to the other, creating very serious problems for me, mainly a considerable loss of income. All I am allowed from Social Security is 199.⁰⁰ per month disability and I need the ranch income to supplement my needs. The income on my ranch is from two separate leases, one of which I will definitely loose if road is pushed thru.

My father homesteaded this property in 1905.

The Forest Service intends to open this road to public use, which will create more problems for me

Now a point I want to make is that there are other alternatives for access into this proposed logging area. Cost seems to be their excuse.

The Forest Service admits there isn't any timber in the area to cover the cost of road building I object to such a waste of our tax money. I would like to see the U S Forest Service be included in the cut in government spending. Like many other people, I would like to see this pristine East Fork area, a prime habitat for wildlife, closed to logging and public use This particular part of Arapaho National Forest is located on the East Fork drainage of Troublesome Creek, a tributary to the Colorado River in Grand C Colorado.

My ranch is located on the West Fork of Troublesome Creek, 18 miles north of Kremmling.

I would also like to add that other land owners and myself feel that the Forest Service should use their own land for access.

I will be very grateful for your consideration.

Thank you.
Very sincerely,

Mrs. June Swanson
Troublesome Rt.
Kremmling, Colo.
80459

Presented by Andy Stahl

Staff Forester

National Wildlife Federation

My name is Andy Stahl. I am the staff forester for the National Wildlife Federation in their Pacific Northwest Resources Center in Portland, Oregon. I have previously been employed as a forest policy analyst for the Associated Oregon Loggers and as a forest planning consultant to the U.S. Forest Service.

My testimony will focus on economic techniques commonly used by economists to evaluate the prudence of investments in timber management on public lands. I contrast the relative advantages of cash-flow analysis and economic efficiency analysis. In addition, I will discuss the Tolan Creek sale area, an example of the consequences of failing to use economic efficiency analysis. In conclusion, I will explain the adverse public policy consequences of standard Forest Service justifications for economically inefficient timber management investments.

Cash flow analysis compares the yearly receipts from timber sales on a unit of the National Forest System, such as an individual National Forest with the yearly costs of timber management. This technique indicates that many national forests chronically spend more on timber management annually than is returned in receipts. The results of cash-flow analyses have been used to criticize Forest Service investment decisions in timber management on lands of relatively low productivity, primarily in the Rocky Mountains.

Insofar as it goes, cash-flow analysis provides a good first impression of where poor investment decisions are being made. But cash-flow analysis is not adequate for identifying which particular areas of forestland are unprofitable for timber management nor does it adequately account for the long-term nature of most timber management investments.

Congress is properly concerned with the results of cash-flow analysis, for they are an indication of annual net revenues to the Treasury. However, this perspective, if over-emphasized, could have three adverse consequences:

1) Investments in timber management which do not make an immediate cash return, but are profitable over a longer time frame, could be overlooked;

2) There may be an incentive for the Forest Service to over-zealously reduce management costs potentially at the expense of meeting established environmental protection objectives;

3) The land base suitable for sustained yield timber management may be overestimated. This is because cash-flow analysis improperly considers the costs of reforestation as a cost of harvesting the existing stand, rather than an investment in growing a future stand. The suitable land base should be determined based on the costs and revenues of growing future timber on a sustained yield basis.

These shortcomings of using cash-flow analysis can be avoided by using economic efficiency analysis in evaluating timber management investments. Economic efficiency analysis evaluates the return on investments made in timber management on particular acres of forestland over the long-term. Economic efficiency analysis compares the discounted revenue stream from timber receipts to the discounted costs of access, sale preparation and administration and investments in growing future stands of timber. Since costs and revenues far into the future are discounted to almost zero, the analysis need only look ahead about 50 years in order to provide meaningful results.

The usefulness of the economic efficiency analysis is illustrated in the proposed Tolan Creek timber sale on the Bitterroot National Forest in Montana. This is a 9,400 acre area which is predominately unroaded. A land use plan prepared in 1975 allocated part of the area to intensive timber management, but no economic analysis was performed justifying this decision. An attempt was made in 1976 to sell timber from the area, but no purchaser was found. In 1977, the Forest Service used Congressionally appropriated funds to build a 10 mile road into the area. Again, no economic analysis was performed justifying the expenditure of these funds.

In 1987, the Forest Service proposes to sell the first of four sales extending through the year 2067. The Forest Service has performed an economic efficiency analysis of the stream of costs and revenues through 2067. This analysis considers the expense of the 10 mile appropriated road to be "sunk" and are therefore not included. In spite of failing to account for the federally financed road, the total present net value of the investments, according to the Forest Service's own analysis, is a negative $24,000. This indicates that had the Forest Service used an economic efficiency analysis in their original decision in 1975 to allocate this area to intensive timber management, they would have seen the imprudence of that decision. As things stand today, $300,000 were expended on Congressionally appropriated roads which accesses timber of negative net value.

The Forest Service generally supports such unprofitable investments with six arguments which I will examine using the Tolan Creek sale as an illustration:

Forest Service Argument: Roads are used not only to access current sales but future sales as well. The value of these future sales must be considered.

Response: Economic efficiency analysis does consider the value of future sales. In the case of Tolan Creek (and many other examples of investment decisions on relatively unproductive public forestland I have examined) the present net value of future sales is either negative (see attachment 1) or insufficiently positive to compensate for the losses.

Forest Service Argument: Roads built to access timber are also used by recreationists. The recreation values produced help to justify road costs.

Response: First, there is a general oversupply of roads for recreationists desiring roaded recreation experiences. A "benefit" only has value if it is in demand. Second, often as not, the road is to be gated and closed, as in the case of the

Tolan Creek road, in order to protect elk and other wildlife species from poaching and harassment; protection that would not be necessary had the road not been constructed.

Forest Service Argument: The roads also help to reduce the costs of fire prevention.

Response: Most destructive fires are associated with timber management, such as slash burns, logging accidents, and the increased access associated with logging roads. In addition, prescribed burning is often a less environmentally damaging and more cost-effective alternative than timber management to reducing the risks of fire.

Forest Service Argument: Openings created through timber management create forage for big game, which provides additional recreational values.

Response: This is a site-specific argument which must be evaluated in the context of the particular population, the condition of its home range area, and the neighboring planned management activities. For example, if there are already adequate openings, but cover for hiding or security is a limiting factor, additional openings are not useful. In Tolan Creek, for example, the regional wildlife manager for the Montana State Department of Fish, Wildlife, and Parks, stated that "To me, that area [Tolan Creek] is more valuable as elk security range [than for timber management]." (see attachment 2)

Forest Service Argument: Harvesting of timber helps to reduce insect and disease problems, which in turn reduces the risk of fire.

Response: This is a corollary to the fire argument responded to above. Controlled burning is often a more cost-effective way of reducing insect and disease problems. In addition, if the timber has negative economic value, its loss due to insects and disease will be at no cost.

Forest Service Argument: The jobs and income created by timber management help provide local community stability.

Response: NWF is not insensitive to the needs of local communities, but retaining an industry which has high financial and environmental costs is probably not the most efficient way to produce either timber or provide jobs. In the Tolan Creek area of southwest Montana, less than 5 percent of the jobs are timber related. The timber jobs are fairly expensive for the government to maintain, in the range of $10,000 per job of federal subsidy, while recreation jobs in the area require about $500 per job. Much of the recreation subsidy can be recovered if recreation fees are set at fair market value. Job re-training grants are a more economically and environmentally sound way of assuming stable, local industries not dependent perpetually on federal subsidies.

The Forest Service has staff economists on almost every National Forest who have the necessary skills to perform these analyses. Properly performed, these analyses are useful tools in decision-making, and properly used by decision-makers they can help make economically and environmentally sound forest management decisions.

ANALYSIS

A present value analysis was done for each entry treatment type at each entry. Copies of the analysis results are included at the end of this document.

PNV SUMMARY

Entry	Acres	PNV/acre	Total PNV	Total PNV/MBF
1987	260	-232.95	-60567	
	25	-553.65	-13841	
	155	-140.77	-21819	
		Entry total	-96227	-16.38
2007	415	30.86	12807	
	332	-203.97	-67718	
	83	-239.97	-19918	
		Entry total	-74829	-7.64
2037	415	163.45	67832	
	332	90.76	30132	
	83	63.21	5246	
		Entry total	103210	10.54
2067	415	64.65	26830	
	332	42.24	14024	
	83	33.74	2800	
		Entry total	43655	4.46

Total PNV-four entries -24192
Total volume-four entries 35,255 MBF

All PNV values are discounted at 4% to 1984.

Prepared by: Fred Stewart
Bitterroot Forest Economist

DECADE	ANNUAL APPRECIATION RATE	
	Timber Value	Production Costs
1	.02748	.02257
2	.01670	.01775
3	.01327	.00248
4	.01073	.00248
5	.01083	.00186

After the fifth decade all costs and values are expected to remain constant for later time periods.

DELIVERED LOG VALUES- $/MBF - in 1984 dollars

	1984	---Projections based on '76-'84 average---					
Species	actual	1985	1990	2000	2010	2020	2030
Alpine fir	156	157	182	202	248	288	333
E. spruce	245	257	296	333	394	445	504
Doug fir	191	165	189	205	257	301	352
Lodgepole	204	180	207	229	280	324	373

In addition to the above values there is also a diameter adjustment based on regression analysis by Merzenich which compares the natural log of the actual DBH to the natural log of the forest average DBH for each species. The adjustment, in dollars/MBF, is as follows:

Adjustment ($/MBF)= 81.144 (in avg. species DBH - In actual DBH)

The historical average DBH, by species, is based on sale data from 1976-82.

Species	Avg. DBH
Alpine fir	11.2
E. spruce	14.0
Doug fir	14.1
Lodgepole	9.6

Second Entry - 2007

415 acres total - Average unite size= 30 acres - Clearcut - Dozer pile and burn - 100% natural regeneration - Tractor logging - Average volume= 12.0 MBF/acre

332 acres total - Average unite size= 30 acres - Clearcut - Broadcast burn - 100% planting - Skyline and ground lead logging - Average volume = 12.0 MBF/acre

83 acres total - Average unite size = 28 acres - Shelterwood - Underburn - 70% planting and 30% natural - Skyline and ground lead logging - Average volume = 10.0 MBF/acre - Removal cut+ 2.0 MBF/acre after 10 years.

Total volume removed during second entry - 9794 MBF

Average species composition-Tractor logging sites

Species	Percent	Avg. DBH
Doug. fir	36.0	12.0
Lodgepole pine	46.0	9.0
Englemann spruce	10.0	13.0
Alpine fir	8.0	11.0
	-Cable logging sites	
Doug. fir	56.0	12.0
Lodgepole pine	26.0	9.0
Englemann spruce	10.0	13.0
Alpine fir	8.0	11.0
	-Shelterwood removal cut	
Doug. fir	100.0	15.0

Third Entry - 2037 - 830 acres harvested.

Fourth Entry - 2067 - 830 acres harvested.

All treatment, volume, and harvest assumptions for the third and fourth entries are the same as for the second entry.

COST AND VALUE APPRECIATION

Species values are based on forest averages between the years 1976 and 1984. Expected appreciation rates are based on Forest Plan assumptions from Adams and Haynes' 1979 national timber market study. Manufacturing, logging and road costs are expected to increase in real terms over time. All agency costs are expected to remain constant in real terms over time.

Activity Fuel Treatment
Broadcast Burn (30 acre avg. unit size) $120/acre
Underburn $175/acre
Dozer Pile and Burn $143/acre

Regeneration
Planting $180/acre
Natural (assume site prep. accomplished through fuel treatment) $0/acre

Stump to Truck (felling, bucking, skidding, and loading)
Tractor skidding - studs $77/MBF
- sawtimber $60/MBF
Ground lead - studs $104/MBF
- sawtimber $82/MBF
Skyline - studs $109/MBF
- sawtimber $87/MBF

HARVEST METHODS AND SILVICULTURAL PRESCRIPTIONS

First Entry - 1987

260 acres total - Average unite size = 30 acres - Clearcut - Broadcast burn - Cable logging - 100% planting - Average volume = 13.6 MBF/acre

25 acres total - Average unite size = 25 acres - Shelterwood - Underburn - Cable logging - 50% planting - Average volume = 11.8 MBF/acre in 1987, 205 MBF/acre in 1997 at time of removal cut

155 acres total - Average unite size = 30 acres - Clearcut - Dozer pile and burn - 100% natural regeneration - Tractor logging - Average volume = 12.6 MBF/acre (includes right-of-way volume)

Total volume removed during first entry - 5873 MBF

Average Species Composition

Species	Percent	Avg. DBH
Doug fir	31.0	13.0
Alpine fir	7.5	14.0
Lodgepole pine	41.0	9.0
Englemann spruce	20.5	14.0

75% studs and 25% sawtimber

ASSUMPTIONS FOR TOLAN CREEK ECONOMIC ANALYSIS

ROAD CONSTRUCTION

All existing roads are considered as sunk costs. New roads are identified for each of the four entries considered in this analysis. A total time frame of 80 years was considered. The roads will be closed between commercial entries and this combined with required road maintenance during harvest periods will result in a road life that extends over the analysis period.

FIRST ENTRY-1987
New construction 3.4 miles @ $29,000/mi. = $98,600
98,600/440 ac. harvested = $224/ac. harvested

SECOND ENTRY-2007
New construction 6.3 miles @$29,000/mi. - $182,700
182,700/830 ac. harvested = $220/ac. harvested

THIRD ENTRY-2037 6.3 miles @ $29,000/mi. = $182,700
182,700/830 ac. harvested = $220/ac. harvested

FOURTH ENTRY-2067 No additional road construction necessary for this harvest entry.

UNIT COSTS

Unit costs are assumed to reflect direct project costs. No Washington or Regional Office overhead is included in the project analysis. Only that portion of the Supervisor's Office overhead directly attributable as project cost is included in the unit costs. All costs are in 1984 dollars.

Preconstruction and Construction Engineering $8500/mile
Road Maintenance $100/MMBF-mile

Average road length to be maintained on the forest development road system is 14 miles.

Timber Haul $960/MMBF-mile

Average haul distance to the mill is 46 miles.

Sale Preparation and Administration (includes ID team input) $16/MBF

Silvicultural Exams (Harvest and Regeneration) $15.90/acre

SIERRA
CLUB
330 Pennsylvania Avenue, S.E., Washington, D.C. 20003 (202) 547-1141

TESTIMONY OF PHILIP M. HOCKER

JACKSON, WYOMING

BEFORE THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

OF THE HOUSE COMMITTEE ON AGRICULTURE

June 5, 1985

Mr. Chairman, my name is Philip M. Hocker. I am an Architect, practicing in Jackson Hole, Wyoming. I have been closely involved with National Forest management issues in the Greater Yellowstone region since 1972. I am a member of the Board of Directors of the Sierra Club, and serve as its Treasurer.

The Bridger-Teton National Forest (the "B-T") includes the lands along the south boundary of Yellowstone National Park, and east and south of Jackson Hole. It is not a very productive area for timber. The dominant species is lodgepole pine, with additions of spruce and fir. Up to the early 1960s there was relatively little timber harvest on the B-T; its dominant values of wildlife habitat, recreation, watershed, and scenery were preserved.

However, since the Forest Service encouraged the establishment of major lumber mills in the area to deal with a perceived problem of insect infestation, the pressure to sacrifice other Forest resources, particularly wildlife habitat, to the interests of timber cutting has been the central issue in Forest Management in this part of the Greater Yellowstone Ecosystem.

This timber cutting is not economic. It has been amply demonstrated by others that the costs of the timber program on the Bridger-Teton greatly exceed the dollar returns. Some other aspects of this mismanagement by the Forest Service need coverage:

FUTURE COSTS RESULTING FROM SALES:

The timber cutting program being pursued on the B-T leaves in its wake a variety of environmental and management problems. Roads built for timber cutting must be maintained and road closures built and enforced to control impacts of road intrustion on elk, grizzly bear, and other wildlife. The costs of these ongoing obligations for the future are ignored in Forest Service evaluations, but they are significant.

Forest regrowth in clearcut areas requires monitoring and management if the optimistic future yield projections of the Forest Service are to be realized. Yet these funds may not be available in future budgets, and the economic return will not justify their expenditure in many cases.

"When we try to pick anything by itself, we find it hitched to everything else in the universe." *John Muir*
National Headquarters: 530 Bush Street, San Francisco, California 94108 (415) 981-8634

Management costs which local wildlife management agencies will be forced to bear, to reduce the impacts of timber harvest and roads on wildlife populations, are not covered by the Forest Service. In effect, the Forest Service is gaining an additional subsidy for its below-cost sales program at the expense of the states.

WILDLIFE SUFFERS FROM TIMBER SALES:

The Forest Service has claimed that the dollar losses from its timber harvest program are justified by benefits for wildlife. Chief Forester Peterson has cited the Wyoming Game and Fish Department as approving timber sales as beneficial to wildlife. The Wyoming Game and Fish Department has strongly protested that this is not its view. I have worked for years with local Game and Fish officials. They view the onslaught of timber cuts and new roads as a steady degradation of the wonderful opportunities for wildlife and sportsmen of Northwest Wyoming. After years of fighting the Forest Service, the Game and Fish are, frankly, tired and somewhat resigned to the continuation of the timber program. But they view it as a curse upon their charge, the elk, not a benefit.

The impacts of timber harvest on elk have been ignored by the Forest Service, or dismissed with the statement that the dollar benefits outweigh the losses to wildlife. Now, when new data refutes that claim, the Forest Service reverses position.

One major study of the effects of timber harvest on elk was conducted in the late '70s on the B-T. The study plan involved timbering one area while leaving another control area pristine, and observing elk use patterns in each. But in the middle of the study period the Forest Service sold the Red Creek-Cottonwood Creek sale. This sale was of the control area! The study was rendered pointless, thanks to the Forest Service.

I am enclosing with this testimony copies of several newspaper articles from Wyoming which demonstrate the continuing problems timber sales are causing for game managers in the region.

THE COSTS OF ENVIRONMENTAL CONSTRAINTS SHOULD BE CHARGED AGAINST TIMBER SALES:

The Forest Service argument that below-cost timber sales are justified because the sales are required to pay for high-level environmental protection measures is illogical. The timber sales themselves have been sold to the public on the basis that, thanks to the constraints, the sales' controversial impact on the environment will be reduced to an acceptable level. If the environmental constraints are removed, the impacts of the sale program will be even higher than at present. A sale program which shows a dollar profit at an unacceptable cost to the environment should not be permitted on the National Forests, any more than a dollar-losing program which complies with environmental requlations.

The Subcommittee should be wary of any attempt to redefine accounting procedures which results in making current deficit sales appear to be economically justified. I personally expect some such attempt to emerge soon.

NEED FOR ACTION BY THE SUBCOMMITTEE:

The cumulative effect of the Forest Service timber sale and roading program mounts annually. On the Bridger-Teton forest, 1985 will bring major new road incursions into key elk habitat, at Bull Creek/Harness Gulch, Gunsight Pass, and other areas. These sales affect not only National Forest lands, but also the totality of the Greater Yellowstone ecosystem. In addition to their immediate costs and impacts, these sales will result in future obligations of the Federal treasury for road management, stand reforestation, and treatment.

These sales are damaging to wildlife habitat, watershed, scenery, and recreation. They have been justified in the past as yielding economic benefits. Now that those benefits have been shown to be sham, there is no justification whatever for their continuance. I urge the Subcommittee to continue its work to halt all below-cost timber sales and the roads which go with them.

NEWSPAPER CLIPPINGS:

Please include the attached newspaper clippings as part of my testimony in the record.

CONCLUSION:

Thank you for the opportunity to present this testimony to the Subcommittee.

CASPER STAR-TRIBUNE 4 DECEMBER 1984.

Officials say more roads planned for logging operations

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

© 1984 Casper Star-Tribune

JACKSON — More logging roads will be built to reach less timber in the Bridger-Teton National Forest in the next five years, according to the forest's Timber Sale Action Plan.

Forest officials say the increased road construction is due to the need to cut timber in roadless areas where logging has been postponed because of controversy or prohibited by law until now.

But two factors could lead to significant changes in the timber plan, according to Bridger-Teton Supervisor Reid Jackson. The upcoming comprehensive forest plan will take precedence and could produce revisions in the timber plan, he said.

And recent efforts by the Forest Service to cut financial losses from timber sales could curtail associated road construction, Jackson said.

Top-level Forest Service officials have identified road construction as the single costliest item associated with timber sales and have directed that cost-cutting efforts focus on roadbuilding.

Rocky Mountain national forests lose money on their timber sale programs, recent studies have shown. Both Congressional and private investigations indicated the Forest Service lost money on every timber sale in Wyoming in recent years.

A comparison of the Bridger-Teton timber plan's projection for the 1985-1989 fiscal years to actual timber sales from 1981 through October of this year shows 15 percent less timber will be cut for every mile of logging road built.

Forest Service records of sales from 1981 through 1984 show 982 thousand board feet (MBF) of timber were sold for every mile of logging road to be built built or rebuilt. Figures taken from the five-year timber plan show the average volume sold for every mile of road will drop to 837 MBF.

From 1981 through this year, the average sale in the Bridger-Teton had 2.43 miles of road work. For the duration of the plan, that amount will rise to 2.87 miles, an increase of 18 percent.

Average timber volume per sale changes little under the plan, from about 2.39 to about 2.4 million board feet. The figures include only large sales handled by the forest's timber office and not small ones sold through each ranger district.

Road construction and rebuilding under the five-year will total 149 miles, or nearly 30 miles per year. The 1981-1984 figures were a total of 51 miles and an annual average of 12.75 miles.

In fiscal year 1985 alone, the Bridger-Teton is proposing sales with 52.2 miles of associated roads.

According to Bridger-Teton timber officer Bill Knispek, the increase in road construction is a result of past timber harvest patterns in the forest.

Most timbering in the recent years has been in areas with existing roads or in the "least sensitive" undeveloped areas, he said. Cuts in more controversial roadless areas were included in earlier timber plans, but were not offered for sale, he said.

"We will be getting a little bit of catch-up done," Knispek said. "We should have had a better mix (in earlier sales)."

Jackson said opening new areas to logging "will take the pressure off" roaded areas in which logging has been concentrated in the past.

Although "there is no attempt on the part of the Forest Service to accelerate road building," Jackson said more construction is a natural side effect of moving into areas opened to logging by the recently-enacted Wyoming Wilderness Bill.

However, not all of those areas will be logged, he said. And attempts to reduce road mileage and costs could lead to revisions in the timber plan, again changing the pattern of sales, Jackson said.

Annual projected sale volume in

Please see TIMBER, A14

4 DEC 84

Timber

Continued from A1

the five-year plan averages 29.9 million board feet, but the actual volume sold is likely to differ, forest records indicate.

From 1981 through this year, an average of about 12.5 million board feet were sold annually in the Bridger-Teton, according to Forest Service documents. In 1982, only one sale, with 2.2 million board feet, found a buyer, records show.

The next year, 39.1 million board feet were sold, much of it in sales that had gone without a bidderin 1982. Forest officials say the fluctuations reflect changing conditions in the market for wood products.

According to Knispek, weak timber market tends to make reduce the attractiveness of sales which involve a great deal of road construction.

Because the timber buyer usually pays for the roads, low timber prices can make it difficult for the company to make a profit on a sale which has a great deal of road work, he said. The Forest Service often tries to make such sales more attractive by contributing directly to the costs of the roads, Knispek said.

tar /Casper Area

Tuesday, Feb. 19, 1985

Star-Tribune, C[illegible], Wyo.—A

Forest plan hurts elk, G&F says

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

CASPER — Elk numbers in he Bighorn National Forest will lecline unless the amount of logging planned for the forest is educed by at least one-third, ording to the Wyoming Game ind Fish Department.

Logging already has reduced ig game herds in the forest, the state agency said. Forest Service assertions that logging can benefit wildlife are "misleading," the G&F said.

In a letter to state planning coordinator Dick Hartman, G&F assistant director Bill Morris said his agency's review of the draft management plan for the Bighorn discovered several threats to wildlife populations, particularly elk.

Star-Tribune file photo

Bighorn Forest's elk: Plenty to eat, but nowhere to hide?

The 18-page letter also was sent to the Forest Service as an official comment on the plan.

Logging will not improve wildlife habitat to the degree claimed by the Forest service, the G&F said. Timber harvest in the Bighorn should be cut, not increased, the G&F said.

Under the proposed forest plan, the amount of timber cut each year is scheduled to rise from the present 15.4 million board-feet (MMBF) to 18 MMBF by the end of the century. The G&F recommends reducing the level to 10 to 12 MMBF.

Although logging will increase forage for wildlife, as the Forest Service claims, there is already ample food available for deer and elk in the Bighorn, the G&F said.

Elk numbers are instead limited by the amount of "hiding cover" available, the letter said.

"Timber harvesting increases available forage, which is in surplus, but also removes cover which may be critical to maintaining desired elk numbers and distribution," it said.

Claims that the forest plan will increase elk winter range are "unrealistic" and "misleading," the G&F said.

State wildife officials questioned the plan's assertion that negative effects associated with logging are only "temporary." The 30 to 40 years needed for a logged area to again provide "minimum big game cover" may be temporary in ecological terms, but is not temporary "in terms of wildlife-related recreation," the letter said.

Many areas slated for logging in the plan are next to old cuts which have not yet regrown enough to shelter wildlife, the G&F said.

Harvest levels of timber should be based on how much timber can be cut without affecting other resources, the G&F said. Instead, it appears to be based on local "demand and mill capacity," the letter said.

"We question the justification for this increased harvest, and believe wildlife habitat on the forest has been diminished in both quality and effectiveness," the G&F said.

The G&F pointed out the Bighorn has lost money selling timber in recent years.

"We question the prudence of increasing monetary losses by increasing timber harvest while negatively impacting wildlife, a resource which provides substantial economic benefits to the state and local economy," the letter said.

Increased demand for recreation, including hunting, could be "incompatible" with the timber harvest plan, the G&F said. Despite that, the Forest Service has made timber management the "major focus" of the forest plan, the letter said.

Wyoming wildlife officials also questioned the Forest Service contention that timbering can be used to increase water yields without harming other resources. Not only can the practice produce erosion and silting of streams, the G&F said, but "the need for increased outputs has not been demonstrated."

Although logging was the major concern on the G&F, the agency's letter also cited worries about planned new roads which could disturb wildlife. It also asked for restrictions on oil and gas exploration in areas critical to wildlife.

Despite the criticisms, the G&F letter ended on a conciliatory note, listing steps the Forest Service has taken to help wildlife.

"We commend . . . these efforts, and hope that our comments are received in the spirit of cooperation in which we provide them," it said.

CASPER STAR-TRIBUNE 6 MARCH 1985.

A1 - 6 MARCH '85

Peterson's remarks shock G&F chief

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

CHEYENNE — Wyoming's top game and fish official says he is "shocked and dismayed" at Forest Service Chief Max Peterson's implication that the state agency favors logging as a way to improve wildlife habitat.

In a March 1 letter to Peterson, Wyoming Game and Fish Department Director Donald Dexter took issue with comments Peterson made last week before two U.S. House subcommittees.

Peterson told the public lands and forest management subcommittees that the Wyoming G&F believes logging is "the most cost-effective way" to improve wildlife habitat.

Dexter said he was "both shocked and dismayed" to read a news account of Peterson's statement.

"This certainly is not an accurate assessment of our philosophy regarding timbering and such a broad generalization is misleading," Dexter said.

The G&F has "supported timbering to improve habitat on site-specific areas," he said. "We have alse opposed many other timbering proposals that we thought were detrimental to fish and wildlife habitat."

Making a statement to the subcommittees implying the G&F believes all timbering helps wildlife "is not only unfortunate, but untrue," Dexter said.

"We . . . are well aware of the costs and benefits of Forest Service timbering policies," he continued. "As a land manage-

Please see G&F, A10

MAX PETERSON
Comments upset state official

G&F

Continued from A1

ment agency ourselves, we are also familiar with the costs of habitat improvement projects.

"At no time in the past has this agency supported such an all-encompassing position on timbering as you suggested," Dexter said. "And in the future, we will continue to review each proposed action on its own merits, as we always have, and make our recommendations accordingly."

Copies of the letter went to Gov. Ed Herschler, the Wyoming congressional delegation and all the subcommittee members.

Larry Kruckenberg, chief of communications for the G&F, said the usual procedure is to correct erroneous testimony by writing only the committee chairman. But Peterson's mistake was serious enough to warrant a letter to each member, he said.

Peterson's comment about the Wyoming G&F came during an exchange with Rep. John Seiberling, D-Ohio, about road construction in the national forests.

Seiberling had cited complaints from state wildlife agencies about Forest Service road plans. Idaho officials are appealing most road projects there, he said, and he noted the Wyoming G&F has criticized the management plan for the Bighorn National Forest.

But the Forest Service consults with state agencies and tries to follow their recommendations, Peterson replied.

When Seiberling then said the perceived impact of logging on wildlife "depends on who you talk to," Peterson responded with the statement which Dexter found objectionable.

star /Wyoming

Saturday, March 9, 1985

Star-Tribune, Casper, Wyo. B1

G&F protests Medicine Bow Forest plan

Department 'expected better result' after biologist worked with Forest Service on the plan

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

CHEYENNE — Wyoming officials are again protesting a Forest Service management proposal for one of the state's national forests because the plan does not adequately protect wildlife values.

Harry Harju, chief of biological services for the Wyoming Game and Fish Department, said the Medicine Bow National Forest plan was especially disappointing because a G&F biologist had worked with the Forest Service to develop the plan.

"We expected a better result," Harju said. "We didn't expect that everything we wanted would be in the plan."

The G&F's 33-page comment on the Medicine Bow plan was in the form of a letter from assistant director Francis Petera to State Planning Coordinator Dick Hartman.

The forest plan is a "sound document," Petera wrote, but it contains "errors, omissions, questionable assumptions and inadequate management direction that could have serious adverse impacts on wildlife populations and efforts to adequately manage their habitats."

Petera's letter focused primarily on logging and road construction and their effects on wildlife.

The Forest Service also failed to recognize the fact recreation is the most important use of the Medicine Bow, he said.

Early versions of the plan were better, Harju said. Provisions which were more favorable for wildlife were removed before the plan was issued.

"It could have been better — it should have been better," Harju said. The plan as issued gives "short shrift to wildlife."

Assumptions used in the plan meant "wildlife values were seriously undervalued . . . ," Petera said. "Uses admitted to be the most important on the Medicine Bow forest appear to be given little weight in the evaluation."

Instead, the plan is a continuation of the Forest Service's traditional emphasis on timber production, he said.

"It does not appear to us to be sound management to increase timber harvest at the expense of other resource values," Petera said.

If the level of timber harvest proves as high as the Forest Service is proposing, the plan's own guidelines and standards for other resources will be violated, he said.

Increased logging and road construction in the Sierra Madre range southwest of Saratoga are a particular cause for concern, Petera said. The Forest Service has not been completely honest about its road plans, he said.

Nowhere in the plan does the Forest Service give a complete picture of where all the proposed roads will be built or what their cumulative impact may be, Petera said. Nor does it say which will be open to public use, he said.

Other parts of the plan are similarly lacking in detail, Petera said. Nor has the Forest Service adequately justified its plan to use timbering to increase water yields, he said.

Other criticisms included:

- Not enough attention to using controlled fires to improve wildlife habitat.
- Timber sales in critical elk winter and spring ranges.
- Too little emphasis on increasing the amount of aspen, which provides food for deer and elk.
- No attention to the effect of the plan on bighorn sheep in the Laramie Range.
- A failure to consider the cumulative effects of road construction and water projects on trout streams in the Medicine Bow.
- Inadequate monitoring of wildlife populations.

The letter also includes specific objections to a number of proposed timber sales and road projects. Harju said the detailed objections are largely the work of Joe Bohne, the G&F biologist who worked for a year with the Forest Service's planning team.

Bohne's specific criticisms reflect recommendations he made which are not reflected in the Forest Service's proposal, Harju said.

CASPER STAR-TRIBUNE 16 MARCH 1985

16 MARCH 1985 - B-5

Plan would boost Bridger-Teton timber sales

JACKSON (AP) — The U.S. Forest Service has released a plan that calls for a dramatic increase in road building and timber sales this year in the Jackson District of the Bridger-Teton National Forest.

The 1985 plan calls for offering 26.1 million board-feet of timber for sale in the Jackson Ranger District, compared with 14.5 million board-feet sold in 1984.

The sales on the 1985 list could require clearing of up to 2,950 acres, with construction of 34 miles of new roads, compared to the 16.5 miles produced in last year's program.

Most of the clearcutting would take place in the Mount Leidy Highlands area between the Gros Ventre River and the Togwotee Pass highway in northwestern Wyoming. Environmental groups predict that area could be a focal point for a confrontation with Forest Service officials.

Lenny Carlman, staffer with the Jackson Hole Alliance for Responsible Planning, said the Highlands are a "critical link" in the Yellowstone ecosystem connecting the Teton Wilderness to the Gros Ventre Wilderness and the National Elk Reguge just outside the resort town of Jackson Hole.

"Many of the recent problems associated with elk populations and the herd management may be attributable to the intensive road construction which has already taken place in this area," Carlman said.

But Jackson District Ranger Joe Kinsella said the proposed increases follow a conservative period, when his agency was conducting environmental studies. He said his agency has been reluctant to construct roads until it completed its 50-year management plan, which is expected out this spring.

"We held off roading until we saw what the plan would do," he said.

Thus, timber sale areas accessible by existing roads have been virtually exhausted, he said.

Kinsella also pointed out that a separate environmental study will be prepared on each proposed sale and not all of them may be conducted.

The district ranger also challenged the belief that road construction disturbs wildlife. Elk migrate across roads in Grand Teton National Park and would likely do the same in the Mt. Leidy Highlands area, he said.

Saturday, May 4, 1985

Casper Star-Tribune

Officials blame logging, new roads for elk decline near Jackson Hole

By ANDREW MELNYKOVYCH
Star-Tribune staff writer

JACKSON — Logging and road construction in the forests north of Jackson Hole have made elk easier targets, leading to overhunting and a decline in elk numbers, according to state and federal officials.

Because the elk herd has declined to 9,300 head — compared to a target level of 11,000 — the Wyoming Game and Fish Department last month moved to restrict hunting in the area until the population recovers.

But future oil and gas exploration and logging in the Bridger-Teton National Forest, especially in the Mount Leidy highlands near Togwotee Pass, could increase the threat to the elk population, G&F officials say.

Bridger-Teton spokesman Fred Kingwill acknowledged logging in the forest has contributed to the recent decline in elk numbers. The Forest Service is trying to find ways to reduce the problem, he said.

According to Tom Toman, Jackson area supervisor for the G&F, the elk herd declined because hunters experienced a higher-than-anticipated success rate in the last several years.

Logging roads have given hunters greater access, making it easier for them to kill an elk, he said. As a result, elk harvest objectives were "overshot," Toman said.

Better access is causing increased pressure on the Jackson Hole elk herd, and maintaining the population may come at the expense of reduced opportunities for hunters, he said.

"People aren't going to be able to enjoy elk hunting as they're used to in Jackson Hole," Toman said.

In order to reduce the hunting pressure on the elk, the G&F has gone to shorter seasons and fewer permits, he said.

"We're trying to relate (greater) access to shorter seasons on the the migration route" from north of Jackson Hole to the National Elk Refuge, Toman said.

Adjusting the hunting season is a

Please see ELK, A12

Elk

Continued from A1

"dynamic process," he said. The effects of a change may not be seen for several years, Toman said, with the result that population objectives may be not met or exceeded.

It will take two years to get the Jackson Hole herd back up to desired levels, he said. Whether it can be maintained at that level will depend largely on the Forest Service, he said.

The Forest Service has accepted the G&F population objectives as its own, Toman said. But whether the upcoming Bridger-Teton management plan is geared to those objectives remains to be seen, he said.

"We have felt in the past that wildlife populations and associated recreation have not been a driving force in forest management," Toman said. "Timber (harvest) volumes have been the only thing taken into consideration."

Because the Mount Leidy highlands are "super critical" habitat for elk, the G&F has asked for a "full-blown environmental impact statement" before logging and mineral exploration are allowed in the area, he said.

Effects of full development of the area need to be studied before any development is allowed, Toman said.

Harry Harju, head of biological services for the G&F, agreed that increased access has contributed to overhunting. Logging has also had a more direct effect, he said, because it has reduced hiding cover for elk.

Weather also played a role, Harju said. Early snows often drove elk into more accessible areas and made them more visible to hunters, he said.

But the G&F is also to blame, according to Harju.

"We simply harvested too many elk in there," he said. "It is difficult to determine what is going on ... and by the time you do know, you're in trouble."

Harju said it is difficult to predict the effects of future development. Until now, elk have had places to move to when disturbed, he said, and those opportunties may be running out.

The only recourse may be to preserve populations by "cutting back opportunities for hunters," Harju said. The eventual trade-off may be between more development and less hunting, he said.

"We're coming to a point in this state where somebody's going to have to make some decisions," Harju said. "The public's going to have to decide."

Despite the past problems, Harju said he is "fairly confident" the Bridger-Teton plan will include greater protection for wildlife habitat.

Forest spokesman Kingwill said that would indeed be the case. The Forest Service recognizes it has increased hunter pressure on the elk by allowing greater access, he said.

"In no way whatsoever should we give any illusion that we haven't increased access," Kingwill said. "The Forest Service is definitely recognizing the impacts of roading on wildlife populations and recreation."

Most of those impacts are negative, he said. The Bridger-Teton plan will attempt to manage elk habitat to mesh with G&F population objectives, Kingwill said.

"The forest plan is going to show we are more responsive — maybe smarter — in understanding impacts on wildlife," he said. "We will be more responsive to the needs and demands expressed by the public."

No decision has been made on how to manage the Mt. Leidy area and whether to open it to oil and gas exploration, Kingwill said. The situation is being reviewed by the regional forester, he said, and the decision may be incorporated into the forest plan, due out in late summer.

Kingwill said the Forest Service is looking at the "cumulative effects" of logging and full-scale minerals development in the area.

REVISED

STATEMENT OF
ROBERT B. SMYTHE, CONSERVATION CHAIR
NORTH CAROLINA CHAPTER OF THE SIERRA CLUB

Before the
Subcommittee on Forests, Family Farms, and Energy
of the Committee on Agriculture
United States House of Representatives

5 June 1985

Below-cost Timber Sales in the National Forests

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I would like to thank you for holding hearings on this issue, which is a matter of concern to many citizens in North Carolina, including nearly 6000 members of the Sierra Club who are part of the Club's 350,000 members nationwide. I am a biologist and a professional consultant on natural resources. I have a longstanding interest and involvement in National Forest management, having dealt with this subject for several years at the President's Council on Environmental Quality (CEQ) where I was the Senior Staff Member for natural resources.

But I am also concerned about the National Forests because, like you and each one of your constituents, my family and I are the owners of them. I currently serve on a forest planning committee of the Sierra Club at the national level; however I will respond to the questions raised in your Charter for this hearing primarily from the perspective of North Carolina, where we have recently completed an in-depth analysis of the Forest Service's proposed management plan and draft Environmental Impact Statement (EIS) for the Pisgah and Nantahala National Forests.

I was the coordinator of this analysis for both the Sierra Club and the North Carolina Wildlife Federation. I was assisted in this effort by a review team of distinguished experts in the professional disciplines of forestry, forest economics, recreation resources, wildlife management, ecology and other related fields. The critique which we prepared was submitted jointly to the U.S. Forest Service by the two environmental organizations as part of the public participation process established by the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), and associated regulations.

Our analysis revealed that the Forest Service was proposing substantial increases in below-cost timber sales from the Pisgah and Nantahala Forests; that these sales would require extensive new road construction in roadless areas which currently provide substantial wildlife and recreational benefits; and that the Forest Service's justification for these timber sales was based on a flawed analysis of recreation and wildlife benefits driven by an effort to meet unrealistic timber harvest quotas.

I would like to present a few findings from our analysis which relate to the major questions raised by this Subcommittee: are below-cost timber sales common? Can they be justified on the basis of non-timber benefits which it is claimed they produce? If not, what should be done about below-cost timber sales by the Forest Service and by the Congress to assure that commodity users of the National Forests are not being subsidized at the expense of recreational users and all other federal taxpayers?

1. How should below-cost timber sales be defined?

We believe that the answer to this question is relatively straightforward: below-cost timber sales are sales where the total economic value received from the sale of timber is less than the economic value expended to accomplish the sale in accordance with all applicable laws and policies. We agree with and recommend that you endorse the methodology set forth by the General Accounting Office in its 1984 report (RCED-84-96) for computing individual timber sale gains or losses. Value received includes cash payments for timber plus the dollar value of roads constructed to Forest Service specifications at the expense of the timber purchaser. Value expended includes all costs to the Forest Service of sale preparation and administration, road engineering and construction, sale area reforestation, and payments to counties as required by law. This record-keeping is nothing more than sound business and accounting practice; we as the property owners of the National Forest System deserve no less.

Such an accounting was not explicitly used in the economic analysis for the Pisgah and Nantahala Forests. However, our own examination of the data presented in the draft EIS revealed that timber from these Forests is usually sold below the costs to the public of managing it for sale. Eight management alternatives are presented in this document, with accompanying projections of benefits and costs. For Alternative A, the Current Management Direction, the separable benefit/cost ratio for timber harvesting is 0.584; this means that timber sales are expected to return an average of only 58 cents for each dollar spent on timber production. For the "Preferred Alternative" the benefit/cost ratio for timber is 0.537, or a return of only 54 cents on the dollar.

If this alternative is selected, the Forest Service's own data (in DEIS Tables II-11 and II-12) indicate that the discounted costs of timber management will exceed benefits by more than $100 million over the next 150 years. In fact, an examination of the FORPLAN computer model runs used by the Forest Service shows that timber costs will exceed receipts in all major alternatives, including one designed to "maximize net present value" for the next 40 years (see Table One below). In these projections, the cost of payments to counties appears to have been omitted, and timber revenues are based on outdated stumpage prices and demand projections that are substantially higher than recent estimates; thus even the above negative benefit projections must be viewed as optimistic.

2. Can below-cost timber sales be justified?

The Forest Service and timber industry representatives have set forth several arguments to explain the occurrence of below-cost timber sales; I will briefly respond to these arguments.

a. The construction and maintenance of roads in the National Forests serves purposes other than timber sales, such as recreation and fire control; therefore the full cost of roads should not be charged to timber harvesting.

-- This argument has a certain intuitive appeal; however, most roads constructed in National Forests are used primarily for timber harvesting, and only incidentally for other purposes. The Forest Service has not yet come up with a rational way to assign partial road costs to activities other than timber harvesting; if this were done it would of course reduce the net benefits claimed for these other activities.

For the Pisgah and Nantahala Forests, our analysis showed that even if more than half the road costs are allocated to other activities, timber costs will still exceed timber revenues for all eight management alternatives presented in the draft EIS. If the cost of road building is completely omitted from the Forest Service's FORPLAN computer model runs, other timber-related costs still exceed timber sale revenues for all major alternatives (see Table One below).

b. Because National Forests are managed for multiple uses over long time periods, benefit/cost analysis is not appropriate for individual timber sales.

-- Although there may be legitimate reasons for some individual below-cost timber sales, such as stand improvement, control of pests, or wildlife habitat enhancement, these should be the exception rather than the rule. A systematic reporting of timber sale costs and revenues would allow the Forest Service, the Congress, and the public to know whether this is true; this is simply good management. Our own analysis revealed that there are very few places in the Pisgah or Nantahala Forests where the mature value of either existing or future (regenerated) timber stands will exceed the costs of the roads needed to harvest them (see Table Two below). In any case, in the economic analyses developed for forest plans allow the costs and benefits of individual sales are aggregated over a 150-year period. The resulting overall benefit/cost ratios for the range of alternatives in the draft EIS for the Pisgah and Nantahala Forests show an interesting relationship -- the ratios are directly, and inversely, related to the eight alternative levels of timber harvesting. The larger the proposed volume of timber to be cut, the lower the ratio of benefits to costs. In other words, the larger the average timber cut, the greater the amount of below-cost timber sales required to meet it.

c. Environmental constraints greatly inflate timber sale costs.

-- In order for it to be legitimately said that timber sale costs are being "inflated" by constraints, the additional cost of the constraints must be shown to exceed the benefits derived from them. The environmental "constraints" placed on National Forest timber sales were established to control major adverse effects which have resulted from unconstrained timber harvesting. These effects have included degradation of soil and water resources, loss of fish and wildlife, and poor forest regeneration. In fact, much of the National Forest land in the East was acquired from private landowners after being subjected to the ravages of "cut and run" timber harvesting. These lands have benefited greatly from the more "constrained" management of the Forest Service; we believe that there are additional benefits to be derived from stricter controls on timber harvesting on steep slopes or adjacent to rivers and streams. If timber sales are not profitable under these constraints, the sales need not take place; the quality of the environment should not be traded off in order to subsidize an otherwise uneconomic harvest.

d. The value of some resources like scenic beauty can not be included in an analysis of economic costs and benefits.

-- We would readily agree; we never said that they should be. But this is not the issue. The issue is whether the sale of an economic resource -- timber -- to private parties from the National Forests should result in economic losses to the owners -- the citizens of the United States. Non-market environmental and aesthetic considerations should operate as additional constraints in this situation; i.e., where there are potential economic gains they should be balanced against any potential adverse environmental effects. Only where there are clear economic benefits should any negative environmental impacts be tolerated. Unfortunately this test has not been applied to many National Forest timber sales.

3. What is the primary problem that creates below-cost timber sales?

In my experience, below-cost timber sales are occurring for several reasons. The first and most important is that the public as well as members of Congress and the Executive branch have not generally recognized the difference between the biological capability of the National Forests to produce timber and their (much lower) economic capability to produce a sustained flow of timber above cost. The RPA process has provided useful information at the national level, but has also been used to generate regional "demand projections" and Forest-level "targets" which are based on policies that ignore the realities of the marketplace. Thus we see most of the National Forests in the Southeast projecting increased timber sales in the face of declining demand, cheap Canadian wood products, and massive "buy-outs" of timber sales cortracts in other regions of the country. Of course, there will be a continuing, even increasing, "demand" for timber from the National Forests if it is priced low enough; but prices below fair market value are both a subsidy to the recipients and a disservice to the many private forest and woodlot owners who are discouraged from investing in improvements to their stands, because they cannot compete with below-cost federal timber sales.

To be fair, until recently it was not clear that this was happening on a large scale. Nevertheless, purchasers have in some cases become dependent upon low-priced timber from the National Forests, which in turn has created local political pressure to continue, and to increase, such sales.

4. To what extent can the issue of below-cost sales be resolved by developing better accounting procedures?

Better procedures are an essential first step in getting a grip on the problem, but will not alone lead to a resolution. As stated above, I believe the GAO has already set out a workable procedure; but Congress will have to send a clear signal to the Forest Service and the commodity users that the American taxpayer can not continue to underwrite the sale of timber from the National Forests. I suggest you direct the Forest Service to adopt policies that substantially reduce the number and extent of sales below cost; one key element of such a policy would be to concentrate sales in areas already roaded, since road construction is often more that 50% of the cost of timber sales.

5. How has the Forest Service implemented Section 6(k) of the National Forest Management Act?

Our review of the Pisgah/Nantahala Forest planning documents raised serious questions about the Forest Service's compliance with the requirement to identify lands not suited to timber production. Despite evidence that many areas of these Forests are of very low productivity, very few if any acres were excluded for economic reasons. Forest planners stated that they tested all analysis areas to determine whether they returned "positive gross benefits" when harvested. However, the appropriate test of whether lands are economically suitable for harvest should have determined the benefits of harvesting net of opportunity costs. that is, gross benefits from stands that are cut should have been subtracted from benefits that would have resulted had the stands not been harvested. We found greatly inflated benefits being claimed for recreation in areas after roading and clear-cutting; these benefits were based largely on dubious claims that there would be enhancements to wildlife populations in such areas. This rationale is contrary to common sense; it also ignores the high net economic values generated by wildlife and recreational opportunities that already exist in areas of old growth forest before they are roaded and cut over. We recommend that any claims of enhanced wildlife and recreation values not be allowed to be used to conceal economic losses from timber harvesting.

6. How does the forest planning process relate to the below-cost sales issue?

Our experience to date with the planning process has been very positive. We have received excellent cooperation from the planning staff in the Forest Supervisor's office; they were very responsive to our proposal to review the draft planning documents and have repeatedly assisted members of our review team in their efforts to understand the complexities of the planning process. However, we have not yet seen a substantive response to our recommendation that a new "preferred alternative" be developed in preference to any of the alternatives set forth in the draft Plan and EIS. We believe that such a redirection is essential to correct the numerous errors and biases contained in the draft documents. We have recommended that one or more new alternatives be prepared and circulated for review and comment in a supplement to the draft EIS before a final Plan is adopted; we understand that the Forest Supervisor plans to do this.

If the Forest Service responds properly to what we believe is the opinion of the overwhelming majority of the citizens who have expressed their views on the management of the Pisgah and Nantahala National Forests, we will see a substantially revised final Plan which minimizes new road construction in areas which are now roadless, recommends all five Wilderness Study Areas for Congressional designation as Wilderness, and reduces proposed timber sales to levels below the current volume. If this occurs, we will most likely be able to avoid the protracted process of administrative appeals and litigation which have unfortuantely been necessary for other forest plans. If this occurs, then the planning process will have helped to resolve the below-cost sales issue for these two Forests. However, this has not yet happened, and it is my opinion that the issue is of such national scope and significance that direction from the Congress is necessary to see to it that excessive road-building and below-cost timber sales are restricted in a systematic and enforceable manner.

In conclusion, I would urge you to consider one other factor of great importance in dealing with the issue of below-cost timber sales. Our study of the Pisgah and Nantahala Forests has shown that very substantial economic and environmental values can be obtained from enhancement of non-roaded recreation and protection of fish and wildlife resources. However, even if the Forest Service adopts excellent forest plans which propose substantial reductions in new road-building and below-cost timber sales, these other values will not be achieved if adequate funding is not provided for them in accordance with the plans. Construction and maintenance of trails (instead of roads), protection and enhancement of native fish and wildlife populations, enforcement of regulations regarding timber harvesting, hunting, and off-road vehicle use are all activities that have been seriously underfunded in recent Forest Service appropriations. I therefore urge the members of this Subcommittee to work with your counterparts on the Appropriations Subcommittee to see that the problems of excessive roadbuilding and below-cost timber sales are addressed by both Committees in concert during this session of Congress.

(Attachment follows:)

PISGAH AND NANTAHALA NATIONAL FORESTS
North Carolina

Economic Analysis of Proposed Timber Sales

Table One

Timber Receipts Minus Timber Costs for Selected FORPLAN Runs
(millions of dollars per decade)

	Decade				
Alternative	1	2	3	4	5
RPA	-25.8	-38.6	-32.4	-26.1	-41.8
Maximum PNV	-17.8	- 1.2	-13.3	-15.1	12.9
Preferred	-31.9	-35.8	-15.9	-24.5	-28.7

The Nantahala-Pisgah EIS is unusual in that it actually discloses the costs and benefits which might be attributed to each resource. As shown on page B-190, the discounted value of the costs of timber management over the next 150 years is over $175 million. The discounted value of the benefits, according to page B-192, is only $97 million.

Table Two

Value of Existing Timber at Age 80
Net of Sale Preparation and Logging Costs
Dollars Per Acre

Forest Type	Productivity Class	Value
White Pine	I	642
Yellow Pine	II	130
Cove Hardwood	I	64
Upland Hardwood	II	231
Spruce-Fir	II	7

Table two shows timber values net of logging and sale preparation costs. Data in the table are based on FORPLAN costs and revenues for the most productive sites of each forest type; timber on less productive sites would be worth even less. The costs of roads in roadless areas will be $300 to $400 an acre, far more than the timber values for all forest types except white pine.

From: O'Toole, R., 1985. Review of the Nantahala-Pisgah National Forests Draft Plan and EIS. Appendix 3 in Smythe, R. B. and J.M. Pye, 1985.

TESTIMONY OF
EDWARD E. CLARK, JR, PRESIDENT
BEFORE THE HOUSE SUBCOMMITTEE ON
FORESTS, FAMILY FARMS AND ENERGY
JUNE 5, 1985

Mr. Chairman, members of the committee, I am Edward E. Clark, Jr., President of the Virginia Wilderness Committee, a statewide conservation organization dedicated to the protection and wise use of the public lands in Virginia. We are extremely concerned with present trends in the Forest Service to manipulate and exploit the national forests of Virginia to create timber yields from the public lands that are neither economical nor are they compatible, in the degree proposed with the best interests of the public.

WhileI recognize that there may be circumstances under which the National Forest Service (and therefore the taxpayers) may have to conduct management activities for which there is not a direct economic benefit, the current practice of selling timber at a fraction of the cost of producing it must be stopped. Every recent cost/benefit analysis of the timber management activities of the National Forest Service in Virginia finds that the cost of timber management exceeds by ten fold the return from the sale of this timber. These studies further state that the Forest Service is probably underestimating the true cost of timber management.

The management plans put forward by the George Washington and Jefferson National Forests call for a fundamental change in the age class distribution and management strategy on the majority of of national forests in the state in order to "improve" the timber stand. I find it impossible to justify the wholesale restructuring of hundreds of thousands of acres of national forest in order to increase timber harvest which even under the best of circumstances, is a losing proposition in Virginia. The losses incurred in timber management amount to a **direct and totally unnecessary subsidy** to the timber industry. Other cost-effective forest uses are compromised or eliminated by this tunnel-visioned management strategy.

Throughout the proposed plan, management activities which are primarily directed at timber production are rationalized and justified upon the basis of alleged non-timber benefits which will result from the specific activity. User groups such as hunters, hikers, fishermen and campers, who are the alleged beneficiaries of many of these non-timber values, are the ones most actively opposing certain aspects of the proposed plan. This may indicate that the non-timber impacts of many management activities should be considered a negative rather than a positive value.

At very least, most feel strongly that in cases where equal or greater non-timber values and benefits would exist without the planned management activity taking place, the timber management activities should be justified solely on the basis of their timber values.

An example of this would be a road into a watershed which contains a trout stream, constructed to provide access for a timber sale. Under the Forest Service procedure, increased recreational access would be assigned as a value of the road, as would fire suppression benefits, general management benefits and many others. Yet, the lost opportunities for roadless area recreation and the potential negative impacts which roadbuilding and increased access may have on the trout stream are not figured into the Forest Service cost/benefit analysis. **By failing to subtract lost resource values and opportunity costs, the entire system for justifying management activities is biased in favor of manipulative management of the forest, and is therefore invalid.** When we consider that the additional management and maintenance costs assignable to the road are also apparently left out of the analysis, the conclusion becomes even more inescapable. The Forest Service has stacked the deck in favor of foregone conclusions and predetermined management prejudices.

In Virginia, the battle over timber sales focuses less upon amount of timber to be harvested, than upon the roads planned to facilitate the harvest.

In the management plan put forward by the Jefferson National Forest, in the section entitled "Public Issues and Management Concerns #4, 'Amount and Kind of Access needed to manage the Resources of the Jefferson National Forest'", the Forest Service states that "The two sides of this issue are: (1) too many roads are being constructed, road standards are too high, road maintenance is inadequate and roads adversely affect other resources; and (2) more and better access is needed."

This statement mixes apples and oranges, implying that access and construction are the same issue. This impression is grossly inaccurate if not deliberately misleading. The overwhelming sentiment voiced in every public meeting and forum is that the public strongly opposes any increase in roadbuilding. The need for new roads has not been established nor can it be justified.

Access considerations most frequently hinge on the management and maintenance of existing roads, not on the construction of new roads.

The Forest Service will almost always dismiss the conclusion that the sale of timber costs more than it yields. The agency claims that critical figures are based on "cash-flow" or short term cost rather than on the long term returns of management.

It is interesting that the agency insists that long-term benefits be included in the analysis, but they themselves fail to includ long-term cost in their figures. Those conducting studies contend that their criticism is not based on cash-flow, rather that the studies have concluded that the cost/benefit ratio is virtually the same for the construction of timber roads, as an example, whether examined in the short term or the long term. While the benefits of the timber roads, the largest single cost item, clearly are greater over the long term, so are the costs, once maintenance, management and enforcement factors are added.

Not every activity of the Forest Service needs to balance on the books, but where deficits do occur, there should be a compelling public interest at stake. Timber production on the public lands of Virginia is negligible when viewed within the context of the total timber production in the state. The public lands account for only four to five percent of the timber consumption of the forest products industry in western Virginia. On the other hand, nearly all of the outdoor recreation opportunities in that region are totally dependent of public lands. More than fifty five million people live within eight hours of the George Washington National Forest, and yet the agency's attention to recreation is minimal. Where it does occur, it is invariably linked to timber management.

For me the absurdity of the entire system is summed up in the section which defends clearcutting along scenic highways based upon the need to create "visual diversity". The implication here is that tourists will enjoy the view more if they have a few clearcuts to gaze upon, and that this is a legitimate benefit of timber harvest. Frankly, I wouldn't buy a used car from people who think like that, and I don't buy their logic on forest management either. No matter what color you paint it, you can't whitewash a boondoggle. The deficit sale of timber from the national forest must be curtailed.

Thank you Mr. Chairman, I will be happy to respond to any questions that you may have.

STATEMENT OF JACK BOSTIC, CRAIG COUNTY, VA

My name is Jack Bostic. I am a native of Craig County, Virginia. I manage a small independent community bank. I am a member of the Craig Wildlife Association, a sportsman's group. As a member of the Citizen's Task Force for Planning on the Jefferson National Forest, I participated in dialogues with the staff of the Jefferson National Forest in developing a Citizens Alternative Land and Resource Management Plan for the Forest.

Of Craig County's approximately 215,000 acres, 115,000 acres, over 53%, are public lands managed by the Jefferson National Forest. Since the late thirties when the Jefferson National Forest was established, an overwhelming majority of the citizens of Craig County and southwestern Virginia have regarded the U.S. Forest Service as a conservationist agency which saved, redeemed and managed lands no one else wanted. For over thirty years the Forest Service taught our people by instruction and by example to value the lands which our ancestors had abused.

Ten to fifteen years ago we began to suspect that the Forest Service had changed directions. Within the last five years, the new direction in which the Forest Service is traveling has become alarmingly apparent. The Forest Service is managing and making plans to more intensively manage the marginally productive lands of the Jefferson National Forest for pulpwood and other commodities with little regard to real and potential damage to other resources. The Transportation Plan provides a blueprint for Forest Service development. The New Castle Ranger District was among the first in the Jefferson National Forest to complete a Transportation Plan.

That plan would triple road mileage on the district and on the Forest as a whole, according to a July 11, 1983, statement from the Forest

Supervisor's Office. "When completed, the transportation system will space roads approximately 2000 feet apart to harvest an estimated total acreage density of 191 AC/MI. This would be a total of 3116 miles of both collector and local roads. We have already constructed 977 miles of this total as of 1981." A large number of these roads will be deep cut, high fill mid-slope roads parallel to each other and the ridge crest.

We have seen firsthand the great cost and meager returns associated with such roads. Midslope Road (an experiment) cost $166,000.00 for $18,168.00 in timber sales revenue. Rocky Branch cost $142,000.00 for $7879.00 in timber revenue. Building Hebron Road cost $152,000.00 to produce $3000.00 in timber sales. Price Mountain Road cost $80,000.00 for $8264.00 worth of timber. Rolands Run Road cost $105,000.00 for $2791.00 in timber sales. Forest Service staff indicate that these timber sales receipts represent the total for the first ten year period or cycle. On these five roads approximately $645,000.00 of planning and construction costs produced $40,000.00 in revenue in the first period.

In its assessment of forest resources, the present Draft Environmental Impact Statement and Draft Land and Resource Management Plan for the Jefferson National Forest attributes eighty-five percent of the present net value of forest resource to non-commodity resources such as wildlife and recreation. Yet the Preferred Management Alternative proposes tripling forest road mileage and the near exclusive use of clear cutting to harvest timber.

The plan calls for far too short a rotation in harvest. Apparently, eighty (80) years will be the prevailing rotation period with an end result of the forest being overwhelmingly of immature young growth. The relatively short rotation combined with the invariable use of clear cutting will create a patchwork of spot diversity rather than the internal diversity that prevails in most older growth Appalachian ecosystems. This sort of management will be detrimental to a number of wildlife species, will in all likelihood create erosion and surface water sediment pollution, will likely impact ground water recharge and will certainly devalue the forest insofar as recreational use.

The Draft Environmental Impact study does not adequately address or study the cumulative environmental impact of the road system which is proposed to manage these commodity resources. As you may be aware, road building is probably the single activity most likely to contribute to erosion and sediment pollution of streams. That potential is particularly great when funds are insufficient to adequately maintain the road system created. Historically, the Jefferson National Forest has had less than one half of the funds required to adequately maintain the existing road system. Tripling the system as proposed in the plan will inevitably exacerbate the situation. The plan uses all conceivable potential values to any resources to support road building and commodity development but it does not similarly apply offsetting devaluation which such activities have on resources. All possible positive effects are stated at maximum value while negative effects on resources are minimized or not taken into account at all.

I have had verbal assurances from the Forest Service that the amount and degree of timbering are greatly overstated in the proposed forest plan. However, the actual revised projections for road building and timbering have not been made public. I believe that the withholding of such critical information defeats the objective of citizen input for the forest in the National Forest Management Act of 1976.

The preferred plan treats the Jefferson National Forest as if it were an insular entity. The vast private land holdings interwoven among the forest lands and the management practices on those lands are completely ignored in the plan. To ignore the management practices on these adjacent lands and their impact upon the resources of the forest favors a management intensive plan. It will require that you perform habitat manipulations and provide for various needs which are more than adequately being provided on adjacent private holdings. It will understate the necessity for the provision of old growth ecosystems.

Finally, the Plan and Draft Environmental Impact Study contain a variety of biases. They are professionally biased in that the planning process and indeed the forest service itself is dominated by professional foresters. The training and background of a forester predisposes him to manage the forest for commodity production. There is bureaucratic bias within the plan. No government agency can continue its existence without activities to occupy its staff. There is also procedural bias within the plan. The software model used in projections for the plan was a timber management model which was modified for management of other resources. It would appear that commodity valuation and input with regard to these commodities were more compatible to this model than intangible non-commodity resources.

I ask you to review the Jefferson National Forest -- Land and Resource Management Plan, Alternative submitted by the Citizens' Task Fbrce on April 9, 1984. Congressional support of that alternative would result in sound multiple use management of the forest at economically efficient levels.

(Attachments are held in the committee files.)

TESTIMONY OF JAMES LOESEL

I am James Loesel, from Rockbridge County, Virginia. Both the Jefferson and the George Washington National Forests are near my home. I have participated in the planning process for each forest as a member of the Rockbridge Area Conservation Council, the Virginia Wilderness Committee, the Conservation Council of Virginia, and the Jefferson and George Washington National Forest Citizens' Task Forces. However, my presentation today comes from my profession analysis as a landscape architect rather than the representative of any group. I appreciate the opportunity to give my views to this committee. My comments apply only to the Jefferson and George Washington, but I hope you will find some application in the rest of the country.

Both the Jefferson and the George Washington National Forest are valuable primarily for their recreation use. Eighty-five per cent of the Present Net Value from each forest comes from recreation, including hunting and fishing. Less than 5% comes from timber.

The two forests are not good timber land. Most land is in low value hardwoods. Only 35% of the George Washington and 29% of the Jefferson are reasonably productive (site index 70 or higher for oak). Much is steep and erosion prone.

Both forests lose money on timber. The Wilderness Society figures for 1983 show that the Jefferson returns 8¢ for every $1.00 spent, and the George Washington returns 10¢. The George Washington claims that in 1984 the return was 46¢. I have attached their balance sheet in appendix A. Please note that the original calculation included K/V reforestation costs, but these were dropped in the recalculation. The accounting does not include the 25% payments to counties, but it adds the value of roads as a benefit.

Nevertheless, 85% of the George Washington NF has been declared suitable for timbering. Timber harvesting increases greatly. Likewise, 52% of the Jefferson has been declared suitable. Timber harvesting increases steadily. If Congress intended to send a message in paragraph 6(k) of the 1976 National Forest Management Act, the message was not heard.

I believe Congress needs to define further under what circumstances timber harves t should take place. The most appropriate means is an accounting system which restricts sales to a level of profitability selected by Congress. However, Congress should take precautions to not perpetuate the weaknesses and inadequacies of the land management planning process by transferring them into an accounting system. By understanding the problems with the planning process, a better system can be devised.

As shown above, the planning process has failed to define adequately what lands are suitable and how much timbering ought to be done on the Jefferson and the GW. Why? Basically because the Forest Service has its heart and soul in cutting timber. Power in the bureaucracy is with timber people, not watershed, archeology, wildlife, recreation range, landscape architects, or any others. Of the 19 people on the Jefferson planning team 14 had academic degrees in foresty or forest management; two were engineers. Five of ten people on the support team had forestry or engineering degrees. They are resourceful in doing what they want to do. What they want to do is manage the forest as a timber resource.

The Forest Service has learned how to use multiple use planning to justify increased timber harvests. They simply define multiple use goals that are consistent with increased harvest levels, particularly using clearcutting methods. These goals may be completely irrelevant for good management of wildlife, watershed, recreation or scenery, but these goals become supports for meeting timber goals.

Let me give some examples: 1) The primary goal for watershed management is increasing total water output. 2) On the GW, dispersed recreation use is calculated as a function of miles of road open to the public. 3) Visual Quality Objectives put only 8% of the Jefferson and 3% of the GW in the preservation category. 4) Wildlife management emphasis is to provide habitat diversity for young forest animals. All of these goals are compatible with increased levels of clearcutting, and the computer program increases harvest figures to achieve the goals listed above.

The Forest Service argues these "benefits" from other goals justify the cash loss on timber sales. Careful analysis shows few benefits can be found, and in many cases the alleged benefits are actually costs. Moreover, the distorted analyses miss many management opportunities and overlook problems that should be challenged. In appendix B I have outlined some of the examples from the Jefferson and George Washington.

Although it is possible to imagine multiple use management for these two forests, it is hard to put these ideas into practise. Thoughtful, carefully reasoned multiple use plans were developed for both forests by leaders from many local and state conservation, sportsmen, and environmental groups. These ad hoc Citizens' Task Forces had a level of professional expertise comparable to the Forest Service. However, to put such plans into effect would require changes in the way the FS evaluates and rewards their personnel, changes in their outlook toward timber management, a retraining of loggers, and changes in Congress.

Congress can start by eliminating the timber quota. This should be followed by strengthening the non-timber bureaucrats by increasing funding for more watershed, wildlife, and recreation projects. According to 1984 figures, trails were funded at less than 20% of requests, while timber roads were funded at 110% of requests. Even up the forces somewhat and let the bureaucrats do battle. Forest uses are often in conflict, and the best approximation to multiple use planning will be reasonable compromises based on serious negotiations.

Congress can give the public a better toe hold in the planning process. 1) Require road plans be made part of the Land and Resource Management Environmental Impact Statement. The location of roads is one of the most important decisions in the plan. Both the Jefferson and GW computer program estimated the miles of roads needed, but did not locate where roads would be built. Now the FS says the computer overestimated the amount needed by nearly twice. Because roads affect nearly everything else, we have no idea what the true configuration is for each alternative. Comments were based on alternatives known to be false. 2) Require maps of the proposed timber harvest areas. The Jefferson plan includes compartment numbers, but only the vigilance of Jack Bostic uncovered that two of the proposed sales were in the Barbour's Creek Wilderness Study Area. 3) Require a format for the EIS and Plan that the public can study with less pain and more understanding. 4) Require an independent assessment of the EIS, and make them redo it if portions are inadequate.

The most important action by Congress is to define an economic rationale for timber harvesting. At a minimum it should be to prevent a cost to the taxpayer. More realistically, the aim should be to prevent the supply of subsidized timber from depressing (or raising) the market price. Lowering the market price may lower the incentive of private individuals and companies to invest resources in timber production or make it unprofitable to harvest existing timber land. Timber from the National Forests should pay its own way—almost. Accounting procedures similar to those used in private industry should be used. Roads should be capitalized and depreciated. Charges for land costs and payments comparable to taxes should be included for land declared suitable for timbering.

As I said, timber should almost pay its own way. There may be extra costs because of multiple use requirements, and there may be additional benefits such as improved future growth and support of local contractors, although I can find little evidence of these on the Jefferson and GW. However, if the FS is allowed to set up an accounting system that enables them to use cash value from non-timber activities, they will simply quantify planning process "benefits" and continue doing exactly what they have been doing. The FS should not be allowed any exemptionsfrom an accounting system, such as salvage, insect or disease control, multiple use benefits, or support for dependent communities, as proposed by Forest Service Chief, Max Peterson. (written response April 10, 1985) The accounting system should be set up and audited by an independent agency such as the General Accounting Office.to prevent creative accounting similar to the 1984 GW balance sheet in appendix A.

I propose that Congress establish an allowable margin for increased costs and or non-cash benefits. I suggest that 5% to 10% is an ample margin, based on the GW and Jefferson examples. Therefore, timber sales would have to cover 90%-95% of costs. Let the FS distribute the margin as they see best. The time period should be reasonably long—such as a planning period of 10-15 years— to eliminate the effects of short term cycles in market prices. The area covered should be the Ranger District, which is the basic decision-making and data collecting level. I believe this method would make the FS more efficient, build independence among the non-timber groups in the FS, reduce the frustration of the public, and relieve some of the pressure on Congress. Taken together with the other changes suggested above, I believe it would go far in correcting the serious problem which now exists.

(Appendixes follow:)

Appendix A

FY 1984
Funding for Timber Decision Variable E-8

				RETURN ON THE $
A.	Tbr. Sale Prep. + Harvest		499,666	
	Tbr. Resource Plans and Inventory		19 554	
	Silvicultural Exam		185 506	
			704,726	$1.64
B	Timber Support to:			
	Wildlife/Fish Habitat		20 160	
	Soil and Water		30 430	
	Land line Location		136 571	
			187,161 (891,887)	$1.29
C.	Reforestation - KV	Money received from receipts of sales	72924	
	Wildlife - KV		10100	
	Virginia Wildlife Corp		26600	
			109,624 (1,001,511)	$1.15
D	Reforestation and Tbr Std. Impr.		317 619 (1,319,130)	$0.88
E	Timber Associated:			
	Road Maintenance		164,170	
	Office Rent		16 000	
	Road Construction (Rd Mgt)		488 647	
	Road Construction (Pre road)		841 999	
	Road Construction (Tbr. Pur. Rd Engineering)		200 011	
	Tbr Purchaser Rd. Constr.		415 000	
			2,125,827 (3,444,957)	$0.34

Timber Sale Value FY 1984 was

$1,154,520 A, B, C, E ($2,549,152) Return of 0.46

(Item D excluded because its accumulated [illegible] of the annual amount not reflective of actual annual timber cut package.

APPENDIX B

Some examples of bad or missed analysis for the Jefferson National Forest and the George Washington National Forest:

1) On scenic quality, the Jefferson Plan says:

> The greatest change in the visual landscape will take place in Management Area No. 8 which is suitable for timber harvesting. Harvesting activities will gradually increase, resulting in approximately 30 percent more clearcut openings being in visible areas than in 1984. More openings will become apparent along major highways and along the Blue Ridge Parkway. Increase in cable-type harvesting will also place clearcut units high on the slopes of mountain ridges thus increasing their visibility.
>
> The cutting, coupled with a 300 percent increase in the transportation system spread evenly over the next 50 years, will create an ever-changing landscape that has the potential for enhancing the visual experience in the middleground and background distance zones. Ninety percent of the new roads will be closed and reseeded after the cutting has been completed thus significantly reducing potentially long-term negative visual impacts. Well planned scheduling of cuts and their locations in viewsheds will create overall large scale textural and color variety in the landscape and when viewed at an even larger scale, the areas suitable for cutting when found adjacent to areas unsuitable for cutting, will also create a desirable variety of landscape patterns for future generations to enjoy. (Jefferson Draft Plan, p. IV-5)

As landscape analysis, this is a highly selective view of visual quality. The clearcuts now take place in the context of a forest which is basically 70-80 years old. The clearcut becomes a blotch which you avoid. The rest of the surrounding forest remains attractive and useable for camping, hiking, hunting, nature enjoyment or whatever recreation use you may choose. However, gradually the forest context begins to change as clearcut begins to occur next to a previous clearcut. The forest will become a checker board of different age clearcuts. No matter how well designed the edges, the clearcuts will not enhance the landscape by adding a little variety. Please see the sketch on the following page for an example of the changed forest context in the long term.

The average tree size within each clearcut block of 25-40 acres will be approximately the same. From standard growth tables, we note the average stem size for these areas, assuming land fertility which is typical of the Jefferson NF:

10 years old	1.4 inches diameter
20	2.5
30	4.0
40	5.3
50	6.3
60	7.2
70	8.0
80	8.8

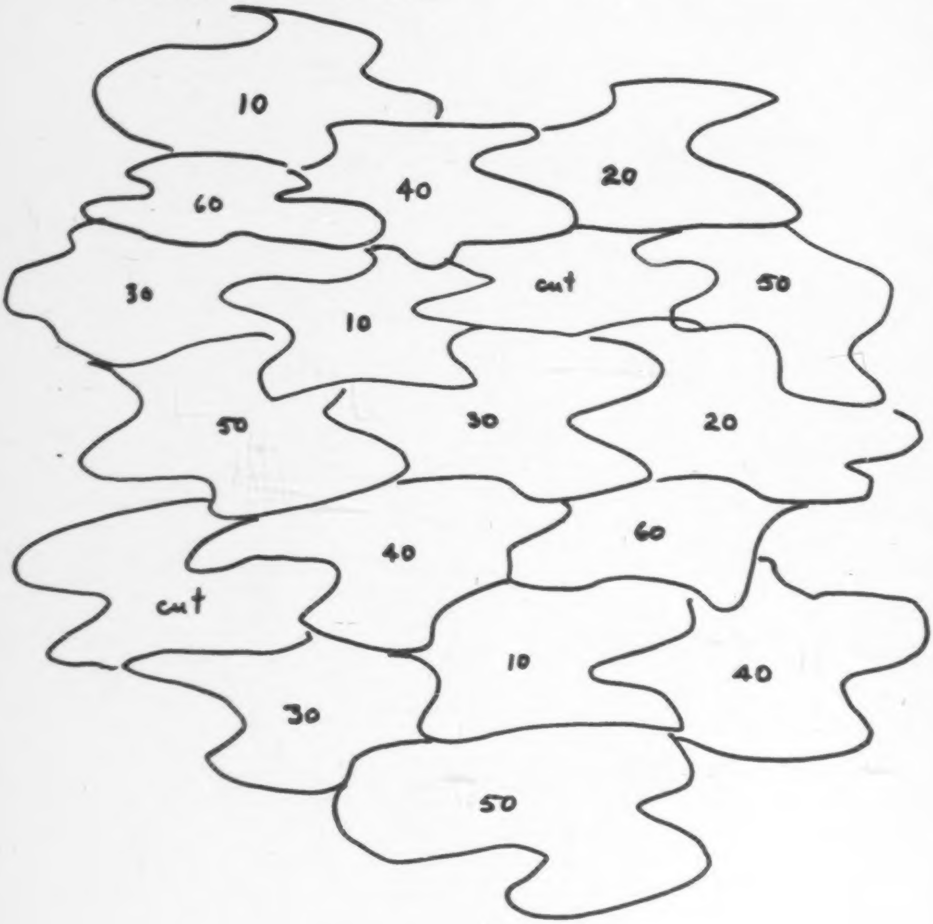
For site index 60 (oak)

(From 1979 Jefferson Timber Management Plan, p. T-19)

If these timber sizes are superimposed on the sketch for the changing forest context, we see a patchwork of small trees.

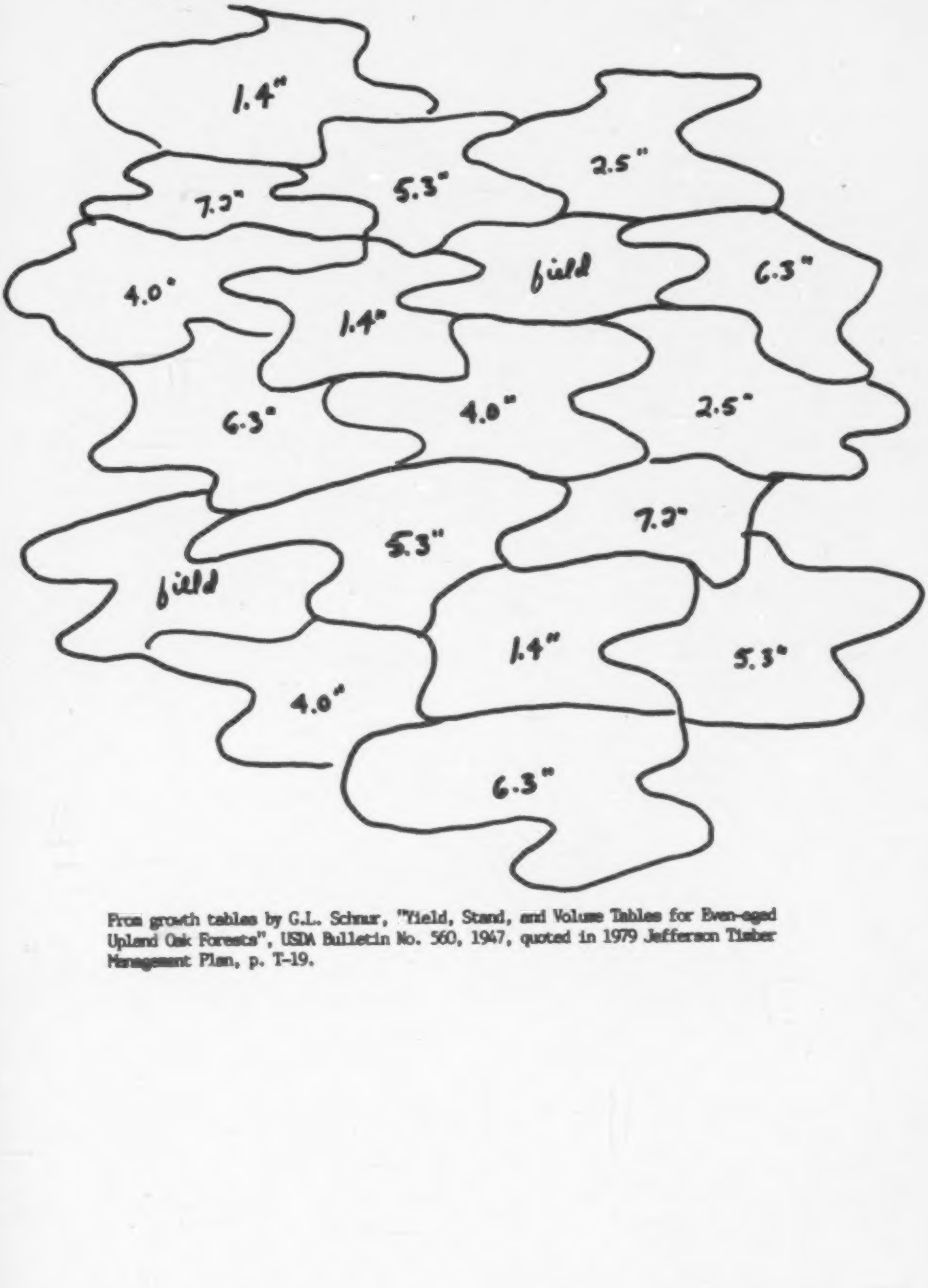
B-2

Example of clearcut patterns when an area has been put into production. Hypothetical ages of growth given in ten year intervals.


10
60
40
20
30
10
cut
50
50
30
20
40
60
cut
10
40
30
50

B-3

Diameter of average stems within each clearcut block in a hypothetical area in full timber production.


1.4"
7.2"
5.3"
2.5"
4.0"
field
6.3"
1.4"
6.3"
4.0"
2.5"
5.3"
7.2"
field
1.4"
5.3"
4.0"
6.3"

From growth tables by G.L. Schnur, "Yield, Stand, and Volume Tables for Even-aged Upland Oak Forests", USDA Bulletin No. 560, 1947, quoted in 1979 Jefferson Timber Management Plan, p. T-19.

The long range plans for the Jefferson NF call for site index 60 (oak) land to be cut on 60 year rotations; site index 50 land will be cut on 50 year rotations. This is the culmination of annual incremental growth. It will produce mainly pulpwood. Site index 70 and higher lands will produce somewhat higher diameters at each decade and will be cut on 80 or 100 year rotations. Even the good land will have relatively small trees until decades near harvest.

This kind of forest will not be compatible with most recreation use. The result will be declining rather than increasing recreation use. The forests will be less interesting from the Blue Ridge Parkway and other scenic drives. Most areas will be impenetrable for 30-40 years. Hunters will be faced with thick growth rather than open woods. Hikers will find little of interest in patches of young growth. Narrow leave corridors will not hide the patchwork forest from trails or streams.

My analysis is very different from the Forest Service analysis given at the beginning of this section, or from the method in the 1979 Jefferson Timber Management Plan. This Plan assigned number values to various timber plans depending on the amount of diversity added to the landscape. Since the "no-cutting" alternative added no diversity, it scored 0. Generally the more clearcutting, the higher the scores, which were added to other indicators to form a composite sum used to select the "best" plan.

2) **Wildlife management** goals are initially set to maintain the minimum population necessary for biological survival. The predicted populations levels are allowed to reach any higher level associated with various timber management regimes fed into the computer.

The deer herd numbers in the preferred plans for both forests reach levels far above the optimum biological levels. In western Virginia we already have a deer herd problem. We need to reduce the herd, not enlarge it, to make it healthier.

Bear populations on the Jefferson NF are dependent on isolation, say National Forest wildlife biologists. Despite the building and rebuilding of 5000 miles of roads and cutting 200,000 acres of mature forest habitat, the Forest Service predicts the bear population will rise by 50%. The West Virginia Department of Natural Resources analyzed the George Washington NF plan. They concluded that bear and turkey populations would fall rather than rise, because these are mature forest rather than young forest species.

Using the measure of isolation as the predictor of bear population, the Jefferson NF figures are wrong. According to Jefferson NF officials, isolation is calculated by the acreage in three categories: wilderness, semi-primitive motorized, and semi-primitive non-motorized. The sum for these categories is the same for all alternatives, and the bear populations should be the same for all alternatives. The figures show various levels of increase.

B-5

In the 1979 Jefferson Timber Management Plan, the Forest Service said they would manage about 200,000 acres for wildlife habitat. In response to written questions by Dr. Jesse Thompson, chairman of the Roanoke College biology department, the Forest Service said: a) habitat management consisted of clearcutting all this area; b) harvest would be on 80 year rotations; c) hard mast (acorns, hickory nuts, etc.) production is optimum in trees between 80-100 years; d) many game and non-game species use and prefer hard mast; e) since hard mast failure occur, yet wildlife survives, optimum hard mast production is not vital to wildlife production.

Wildlife biologists know standard techniques for stimulating hard mast production by thinning crowded stands to achieve wide crowns. Thinning may be done by girdling where harvest is not economic. Fertilizing with potash and bone meal is also helpful.

Indicator species are supposed to show changes in habitat. Pileated woodpeckers are supposed to indicate what is happening in the mature forest habitat. It is assumed by the Jefferson NF staff that forests less than 100 years old produce 2 pileated woodpeckers for every 444 acres; forests over 100 years produce 2 pileated woodpeckers for every 100 acres. Because of these assumptions, the Jefferson NF shows a huge increase in pileated woodpecker numbers as the 70-80 year old growth passes 100. This increase because of mathmatics masks the gradual decline of the mature forest habitat as large parts of the forest are converted to young growth.

3) Present Net Value, the figures used by the FORPLAN computer program, is calculated for **watershed management** goals by multiplying watervolume (acre/feet) times an assigned dollar value. In a slide presentation, the Jefferson NF staff calculated the value of water from the forest at $300 million. In the Draft Environmental Impact Statement, the figure for this planning process is $1.6 million. In the 1979 Timber Management Plan, they give each acre/foot a value of $135; in this plan they use a figure of $1.50. The high figure was the result of research done in the Mt. Rogers National Recreation Area, part of the Jefferson NF; the low figure was assigned by the Regional Office.

No goals were assigned for maintaining summer flows or increasing aquifer recharge. No values were assigned for water quality such as temperature, clearness, correct pH, or nutrient levels.

Top **research** priority for timber management is to "determine the potential for new markets for small diameter timber products". The second priority is to "develop a method to successfully regenerate mature and overmature stands which have no desirable advance regeneration and which have no capability of sprouting, primarily northern red oak, white oak and chestnut oak". No mention is made in the list of the slowdown of forest growth and mortality of certain species reported by scientific and popular sources, probably due to complex pollution stress. In conversations, the Forest Service staff says the slowdown is due to maturing at a rate faster than previously suspected for eastern hardwood forests, necessitating a speeding up of harvesting.

By law, productivity of the soil may not be impaired by timbering. Because much of the land declared suitable for timbering on the Jefferson and the George Washington National Forests is steep, erosion prone, and low in productivity, I asked the Jefferson NF soils scientist for calculations to who that productivity would not be impaired on marginal land to be timbered. His response to my request was: the Forest Service does not do illegal acts, impairment of productivity would be illegal, and therefore the Jefferson plans will not impair productivity. His second response was: why do you want these figures? His third response was: you will have to come to my office to see. His fourth response was: a set of calculations not consistent with other research figures. He has not responded to my last two letters.

The George Washington NF Management Plan included Appendix J which reputed to show amounts of soil that can be lost without losing productivity. a) The chart contains errors in basic arithmetic in converting from 100 year figures to 80 and 60 year rotations. The chart now allows for more soil loss in shorter rotations exactly opposite the allowed loss. b) The head of the water and soil division said he did not understand the chart. c) The ordered revision in the chart dropped the columns with arithmetic errors rather than correct them. d) the figures for allowed soilloss during the first year and during the 3-6 year recovery period are wrong for all except the 100 year rotations.

Recreation values are dominant for both forests. About 85% of Present Net Value is derived from recreation, with dispersed recreation the major portion of all recreation use. In calculating PNV, other forest uses are overwhelmed by the dispersed recreation figures. Therefore, the method for calculating how many people use the forest (recreation visitor days) and the value for each 12 hour day of use are critical to forest planning. The assigned dollar values are taken from the 1980 RPA study rather than the higher figures in the more recent RPA study.

The George Washington NF staff calculates dispersed recreation use through 3 measures: 1) miles of ORV roads, 2) miles of forest roads open to the public, and 3) service levels for facilities (including primitive camp sites and trails. It is uncertain from the plan how figures for wilderness and non-motorized semi-primitive areas were derived. Using the three measures announced, the alternatives with the highest road building plans combined with the highest levels of roads open to the public have the highest dispersed recreation use. Low timber harvest alternatives generally show lower dispersed recreation use because there are fewer roads.

The Jefferson NF staff uses a different set of measures to predict recreation use. "Growth is predicted on past use, population trends, facilities, projected budgets, and the availability of the various categories of the Recreation Opportunity Spectrum. The projected dispersed recreation use is in no way tied to number of miles of roads." (letter from Jefferson Forest Supervisor, March 13, 1985) While these factors appear reasonable, the condition of the forest certainly will have a major effect on future use. As indicated in my analysis of the scenic quality of the future forest, clearcutting tends to discourage recreation use in the long term. On the other hand, wilderness designation tends to attract use, perhaps because of advertising.

Future use figure for recreation show demand will exceed suply in many categories in the reasonably near future. The Jefferson preferred alternative shows shortages of semi-primitive motorized opportunites during the next 20 years; semi-primitive non-motorized soon after 30 years; wilderness in between 30-40 years. (Plan, p. II-4) The George Washington preferred plan shows an existing deficit in wilderness use and fish and wildlife use.

I believe good planning would prepare for expected shortages, such as wilderness use. RARE II areas not now in the system and "special management" areas could be managed so they could be brought into the wilderness system where needed to meet demand. This would not preclude selection cutting and minimal roads that could be returned to a "natural" setting. The Jefferson plan reduces most of the RARE II and special areas to a size that would make them unattractive as wilderness areas.

Testimony of the South Carolina Wildlife and Marine Resources Department on "Below-Cost" Timber Sales

Mr. Chairman and Members of the Subcommittee:

On behalf of the South Carolina Wildlife and Marine Resources Department, I would like to express my appreciation for the opportunity to testify before this sub-committee today and express our thoughts on "below-cost" timber sales as it relates to wildlife in the southeast.

As a public agency charged with the statewide responsibility of protection, management and enhancement of the fish and wildlife resources, our Department is committed to the future well being of the valuable natural resources on the two National Forests in South Carolina - - the Francis Marion and Sumter National Forests. Wildlife management on our two forests represents not only one of the earliest cooperative Forest Service-State wildlife management efforts in the nation, but is also a program which has evolved into a working relationship acclaimed nationwide as the best example of such a cooperative endeavor. As expressed in cooperative agreements between our state and the Forest Service, it is the mutual desire of both parties to work in harmony for the common purpose of developing, maintaining and managing all of the wildlife resources on the two Forests for the best interest of the people of South Carolina and the United States.

Likewise, South Carolina is proud to be associated with the Southeastern Association of Fish and Wildlife Agencies and the International Association of Fish and Wildlife Agencies. We are active members in both of these Associations, and it is by request of the IAFWA that I am here today to express some thoughts of our agency and that of the member states of the SEAFWA.

The 35 National Forests in the Southern Region (Region 8), comprize approximately 12.5 million acres. These lands comprize a large portion of the public hunting lands in the southeast, even though they represent only a small part of the 191 million acre National Forest System. Hunting, fishing and other forms of wildlife-related recreation including market products, social experiences and ecological perceptions account for a considerable proportion of the public use of National Forests in the southeast. Since both increasing demand for commodity forest resources and land use changes will impact wildlife habitat and wildlife-related recreation, wildlife and wildlife-related recreation will be increasingly dependent upon public lands. For these reasons, we are concerned over the issue of "below-cost" timber sales - - particularly if the "below-cost" sales in other regions direct timber targets in the southeast.

As yet, the term "below-cost" timber sale does not seem to have a uniformly accepted definition. Many critics of the Forest Service define "below-cost" sales as sales which cost the government more to prepare and administer than they return in revenue. This definition is limited in scope and is based on a cash-flow analysis, not a true economic analysis. We believe that "below-cost" timber sales should be based on an economic analysis that compares total program benefits to the total program costs, over time. To define "below-cost" sales using economic considerations, non-commodity resources such as hunting, recreation, bird-watching and other non-consumptive uses, must be quantified and valued. This information is generally not available but must be developed to adequately address the "below-cost" sales issue. No matter how "below-cost" sales are defined, we realize that some "below-cost" sales are important to the future productivity of our national forest lands. A long-term management perspective on our national forests is of paramount importance to the future of the Nation - - we support this view. The Forest Service should have the flexibility to offer "below-cost" sales, and we support such sales where they are needed to improve site productivity, increase plant and animal diversity, enhance wildlife habitat or to serve true multiple-use purposes. But, such sales should be the exception when needed and justified, not a common practice.

It is apparent to us that timber is being harvested from national forest lands on sites where a profit-oriented landowner would not consider cutting timber, much less building haul-roads. But we believe that Congress did not necessarily intend for the national forests to make a profit. We feel that the Congress realized that the multiple use of our national forests would detract from their ability to maximize profit from timber and the non-renewable resources inherent within the land. The recent suggestions by critics and conservationists that the national forests produce a profit from the timber operations or else recover their management costs by the timber and other services is of concern to us. Even though the focus is mostly on timber, the thought that other resources, such as wildlife, should pay their way has significant ramifications that have not been adequately studied. Besides, much of the need for wildlife habitat improvement on national forest land is a direct result of poor management of the land by previous landowners with a general lack of consideration for non-commodity resources.

The Multiple-use Sustained Yield Act of 1960 charges the Forest Service to manage the various resources "and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output of timber". The Forest Service has been directed by the National Forest Management Act of 1976 to manage for long-term sustained yield with only due consideration of costs and benefits. Clearly then, "below-cost" timber sales should be permissable when the objective is to achieve total resource benefits other than timber quotas.

The complexity of integrated forest management has increased significantly over the past decade as our Nation's resource managers have learned to improve the quality and quantity of our renewable resources. With this increased complexity of forest management, demands for better accounting have grown and the cost/benefit relationships have become more complex to evaluate. Some resources, like wildlife, are difficult to price and assign realistic monetary values. As such, their true economic value is often inadequately considered.

Because many of the components that must be taken into account in an economic analysis, such as social, political, environmental and aesthetic considerations, are not readily definable, the total benefits and costs of forest programs become even more difficult to grasp. It is time to quantify and qualify these non-commodity resources so realistic economic analyses can be made. Such analyses will provide total resource benefits and give a more realistic view of the cost/benefit relationships.

The current land and resource management planning process as required by the National Forest Management Act is designed and intended to answer questions using the best possible information on benefits and costs of various alternatives developed by Forest Service planners. Within recent years, this process has caused some concern to agencies such as ours. For instance, the estimated values of recreation and wildlife that were projected for the 1985 Draft RPA document were arbitrarily decreased by 37.5 percent nationwide. Also, in the forest plans, the Forest Service recognizes no differences among recreation and wildlife values between Forests within the administrative regions. Wildlife professionals are concerned that since wildlife and fisheries are not realistically priced and assigned dollar values, land management planners are not adequately portraying a true economic analysis of wildlife benefits. We note, how can the process assure that multiple use direction is followed and net benefits are maximized over the long-term if the selection of an alternative precludes a realistic economic analysis for wildlife and fish?

The Chief of the Forest Service, Mr. Max Peterson, has repeatedly stressed that concerns over "below-cost" timber sales and roads should be addressed at the forest planning level for the individual National Forests. We believe it has been the intent of Congress to assume that the Forest Service will fully consider and aim its management in a direction that the public has identified through the

Land and Resource Management Planning Process. Based on our knowledge of the planning process in South Carolina and throughout the southeast, we believe this has not necessarily happened. For instance, the Final Plan for the Francis Marion National Forest and the Draft Plan for the Sumter National Forest indicates that the Forest Service intends to pursue a management scheme with substantial increases in timber outputs with only minimal increased emphasis on non-commodity resource, particularly wildlife.

We believe that there is an enormous disparity between the attention given to wildlife and timber production and their economic analysis in the South Carolina plans. Timber harvest increases of up to 50% above the 1980 RPA timber targets are proposed - - this is the maximum timber harvest allowable under the National Forest Management Act. The importance and value of the wildlife resources have been clearly expressed by our Department and various conservation organizations during the planning process for the Francis Marion and Sumter National Forests. Unless adequate emphasis is given to the importance of wildlife resources and a true economic analysis is projected for these resources, it is difficult for agencies such as ours and others in the southeast to comprehend how "below-cost" timber sales and road construction can be adequately addressed in forest planning process.

Timber sales from the productive national forests in the southeast (Region 8) are relatively profitable and along with productive forests from the Pacific Northwest and California, tend to offset the financial losses of timber programs in other regions. We believe that excessive "below-cost" sales in some regions may have resulted in increased demands for timber in the southeast. For example, the 1980 RPA timber targets for most of Region 8 (southeast) are far surpassed by the forest plans, and it appears that predetermined timber targets may be used to create decisions in forest plans. If forests in the Southeast are in fact subsidizing forests in other regions, we feel an injustice to our sportsmen and outdoor enthusiast may be occurring. We feel it is unfair to our sportsmen for forests in South Carolina and the southeast to have increased timber harvests and profits in order to subsidize national forests in other regions where "below-cost" sales are more prevalent.

In the southeast, mainly in the Appalachian Region, some "below-cost" timber sales are in fact beneficial because of other multiple-use benefits that will be derived from the timber sales. Many of these lands though may appear to be unsuited or uneconomical for timber production, but if the total benefits (market and non-market) are weighed against the total costs (both budgetary and non-market), timber harvests may be the most cost efficient means of achieving other resource objectives. But, excessive "below-cost" sales may result in changes in wildlife species abundance and may occur on steep lands that are particularly scenic and are highly vulnerable to soil erosion and water quality degradation. These lands are valuable for wildlife and recreation. Therefore, we are not advocating wholesale "below-cost" timber sales.

The philosophy that economic losses from timber sales are insignificant and are worthwhile in other regions because of other multiple use benefits associated with increased logging and road construction is not acceptable in view of the extent "below-cost" sales occur in some regions. The General Accounting Office, the Congressional Research Service, the Wilderness Society and the Forest Service have all determined that a significant number of timber sales cost more to the agency than they return to the Treasury. However, we feel there are sufficient multiple use benefits produced to justify these sales, and we strongly encourage the Congress to urge the Forest Service to provide economic justifications for these benefits as it would be to their advantage to do so.

Assuming that Congress may continue to allow "below-cost" timber sales, our hope is that the Congress and the Forest Service will focus on a site specific cost/benefit analysis of timber sales. The Forest Service should complete management plans that provide assurances to the American people that the agency will manage our national forests on both a sustained and economic basis while providing for multiple uses of the forests. A comprehensive system should be developed to determine site-specific cost/benefit analyses that incorporate quantification of other resource benefits and costs.

We believe Congress should strengthen Section 6 (K) of the National Forest Management Act and direct timber production on only those National Forest lands that are physically, biologically and economically suited to this activity. The suitability provisions of Section 6 (K) should be examined on each Forest rather than through regional and national timber targets. If timber harvesting and reforestation can occur on lands with low site indexes without site degradation and losses to other resources, then we are in favor to these sales. But, given the low value of some sites for timber and their high public use, the Forest Service should realize the value of public lands for non-timber uses.

In summary, we believe losses from "below-cost" timber sales in some administrative regions are of significant concern that Congress should take a close examination of these sales and ask the Forest Service to incorporate true values for all costs and benefits of forest management in their planning documents. (We feel such action will put non-commodity resources, including wildlife, into proper perspective and best serve the interests of our sportsmen and the people of this country.)

Mr. Chairman, this concludes my presentation and I appreciate the opportunity to present this testimony.

STATEMENT OF THE IDAHO DEPARTMENT OF FISH AND GAME BEFORE THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY AT HEARINGS ON THE ECONOMICS OF FEDERAL TIMBER SALES

June 5 and 6, 1985

I am Jerry M. Conley, Director of the Idaho Department of Fish and Game (the Department). I appreciate the opportunity to present the Department's views on the impacts of federal timber sale policies upon fish and wildlife resources in Idaho.

The Department is responsible for the protection and management of Idaho's substantial and valuable wildlife resources for the use and enjoyment of our citizens. Idaho's wildlife resources are also of national importance.

The Department, since its creation by voter initiative in 1938, has been concerned with the impacts, both positive and negative, of many actions upon wildlife. Actions taken by the Forest Service, including but not restricted to timber sales, have the potential to significantly impact Idaho's wildlife because the Forest Service manages 38 percent of Idaho. In addition, actions taken on forest lands often have impacts which extend beyond forest boundaries; e.g., migratory big game and anadromous fish.

The Department recognizes that timber harvest, regardless of the economic balance sheet, has both beneficial and detrimental direct impacts upon wild animals. Whether these impacts are beneficial or harmful depends upon many factors totally or partially unrelated to the economics of the sale. Some of these factors are the animal species involved, timing of the sale, proximity to other sales, size of the sale, topography of the site, erodibility of the substrate, logging techniques used, road construction needed, management after the sale, mitigative measures applied, etc.

Indirect impacts of timber sales are often more important than are the direct effects of timber harvest. Specifically, road building and subsequent use and management of these roads is the main side effect of timber sales that concerns the Department.

Improved access (more roads) increase vulnerability of large animals in particular to harvest and other human-caused mortality. This increased vulnerability reduces the recreational opportunity the Department can allow. It can also adversely impact rare or threatened and endangered species where any increased vulnerability could doom the population.

Roads are a major source of sediment from forest lands. Sediment is very detrimental to cold water fishes, including the internationally important salmon and steelhead trout which spawn in Idaho waters.

The Department does not believe that all "sales below cost" are bad for fish and wildlife. However, we do think that they have a higher potential to damage animal resources than do "profitable" sales for several reasons.

First, many "sales below cost" are on poor timber sites. Vegetative recovery is slower on these sites. Beneficial effects for wildlife are often lower because the timber canopy is not as closed as it is on more productive sites. On balance, positive effects are usually less and negative ones greater on severe sites.

Second, many "sales below cost" are on steep slopes where road building costs are high. Operating on steep slopes increases erosion, thus sediment deposition in streams, which adversely impacts fishery resources.

Third, many "sales below cost" are at high or low elevations where trees tend to be patchy and grow slowly. Patchy habitat is ideal for many wildlife species. Harvest of the timber patches removes an important habitat component. In contrast, logging on good timber sites (dense forests) tends to create patchiness, thus improve habitat for some animals.

Fourth, many "sales below cost" are such because a high road miles:timber volume ratio exists. The first and third reasons above impact this ratio. But, sometimes this ratio is high because sales are, seemingly by design, put deeply into undeveloped areas to provide primary access for later sales. This practice leads to impacts on animal resources for the entire length of the road, not just on the sale area. Therefore, adverse impacts occur over a wider area than do any beneficial area.

The Department believes that timber sales should be judged on their total benefit:total cost ratio. Economics is but one factor in this ratio. The Forest Service is a strong supporter of "community stability" as a major factor in this ratio. The Department believes that impacts upon all other forest resources should likewise ba a major consideration.

The Department can and has supported "sales below cost" where we thought the benefits to fish and wildlife outweighed the impacts. But, the Department does not believe it is in the best interest of society to damage fish and wildlife habitats which support a multi-million dollar recreation industry in Idaho, without some compelling reason. We do not think "sales below cost" are such a reason.

The Department has found that the Forest Service often claims benefits for roads tat we would consider detriments or a toss-up at best.

I will now attempt to answer the questions raised in the "Charter" for this hearing. These are referenced by item number from that Charter.

1. The Department accepts the Forest Service definition of "below-cost" sales.

2(a) The Department agrees that environmental constraints do increase the costs of timber sales. We have not examined a cost analysis adequately to say whether said constraints greatly, moderately, or slightly increases costs.

2(b) Some of these "investments" also assure long-term detriments to fish and wildlife. The Department has neither the forestry nor economic expertise to determine what the long-term balance sheet for timber resources looks like. We do think that on balance timber programs can benefit hunted wildlife but their effects upon the diverse nongame wildlife is questionable.

2(c) The Department agrees that not all decisions should be based on the dollar. That is what we have experts for--to decide if the projected economic balance is acceptable considering the non-economic balance. The Department has opposed some "profitable" sales because we thought the economic profit was too small for the non-economic loss.

3. In the Department's experience, road construction costs are a, if not the, major reason for "sales below cost". For example, 46 percent of the FY80 budget on the Nezperce National Forests in central Idaho was devoted to roads.

4. I have no comment on this item.

5. The Department believes the Forest Service is trying to manage timber on some lands in Idaho where other resources have so much higher value that timber management should be foregone.

6. The Department has a good,, cooperative relationship with the Forest Service. We are given adequate opportunity to comment on Forest plans. Many of our comments do influence Forest plans but some do not. The same is true for area prescriptions and, to a lesser degree, for road network plans.

The Department believes that some guidelines on when and why "sales below cost" will be accented could be appropriately included in forest plans. However, we believe that most such decisions should be based upon professional judgment, public concern,a nd legislative oversight similar to this hearing.

7. The Department believes that we, in Idaho, are at or rapidly approaching the point where additional roads will have few if any benefits and many detriments to fish and wildlife resources and use of them. We are strongly advocating road closure programs, "minimum

standard" roads, aerial logging, etc. as ways to reduce detrimental impacts of timber sales. The Department is far less concerned about the effects of timber removal, per se, then it is about roads and road use. Non-cash costs of timber sales and roads are many and include: (1) loss of habitat, (2) reduced use of habitat, (3) increased vulnerability of animals due to loss of cover and increased human activity, (4) damage to adjacent habitats, (5) displacement of animals into other areas where competition is increased, and (6) reduced recreational opportunity which impacts many businesses.

8. The Forest Service should devote more money to road management. The Department also believes that the Forest Service budgets in Idaho are unrealistically low for fish and wildlife programs--about 4 percent of the total budget. The Forest Service should seriously look at the economics of building minimum standard logging roads, to be used for that purpose alone, as opposed to multiple purpose roads. The Forest Service, at least in Idaho, should set a goal of closing as many roads as possible to reduce maintenance costs. If "sales below cost" are going to be let, the Department thinks it would be better for the taxpayer to subsidize aerial logging rather than the environmentally damaging roads. We would like to see some serious consideration of this concept. If we are going to lose money, we should try to do it in an environmentally innocuous manner.

9. The Department, as an advocate for fish and wildlife resources, obviously would urge that these resources and recreation they provide should be a more important consideration. As mentioned above, only about 4 percent of the Forests' budgets in Idaho are

devoted to programs for fish and wildlife habitats. The Department believes this is inadequate in light of the importance of these resources to Idaho and the nation.

The Department also believes the Forest Service is using unrealistically low economic values for recreation associated with fish and wildlife in their planning process. In Idaho, the values being used are substantially below those determined in a recent study (see the table below).

Comparison of estimated net values of wildlife-associated recreation in Idaho

	Estimated Dollars Per Wildlife & Fish User Day		
	Loomis & Sorg[1]	1985 RPA[2]	Idaho Study[3]
Anadromous Fishing	36	22	30
Cold Water Fishing	17	11	64
Big Game Hunting	50	31	53
Small Game Hunting	22	14	--[4]
Upland Game Hunting	38	24	81
Waterfowl Hunting	35	22	121

[1] Average of values for Regions 1 and 4 from Table F.4 (page F-11) of the DEIS--1985-2030 RPA Program, USFS.

[2] Average values for Regions 1 and 4 from Table F.2 (page F-7) of the DEIS--1985-2030 RPA Program, USFS.

[3] Values from a cooperative study of the net economic value, in 1982, of recreation associated with fish and wildlife resources. Results are in press at Rocky Mountain Forest and Range Experiment Station, Ft. Collins, CO.

[4] Not measured.

In conclusion, the Department has some concerns regarding all timber harvest programs but especially "sales below cost" Our major concern often relates to roads not timber harvest per se. We think the Forest Service does not emphasize fish and wildlife habitat enough.

I could summarize the Department's philosophy on "sales below cost" by stating that economics should be a major consideration unless a case can be made that the balance of non-monetary costs and benefits is clearly on the benefit side and that such benefits justify the economic loss.

R9PC112TV

American Fisheries Society

5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199
(301) 897-8616

WILLIAM S. PLATTS	CARL R. SULLIVAN	ROBERT L. KENDALL
President 1984-1985	Executive Director	Managing Editor

AMERICAN FISHERIES SOCIETY TESTIMONY
on
U.S. Forest Service Below-Cost Timber Sales

Presented by Carl R. Sullivan, Executive Director
June 5, 1985
before the House Subcommittee on Forests, Family Farms, and Energy
Charles Whitley, Chairman

Mr. Chairman:

The American Fisheries Society is pleased to respond to your invitation to give testimony on the issue of "below-cost" timber sales on public lands. We consider this issue to be of enormous importance to the future of the nation's fisheries resources, and we thank the Committee for giving us the opportunity to be heard.

The American Fisheries Society is a 115-year old organization of professional fisheries scientists. Our 7,000 individual members include most of this nation's best fisheries scientists and the professionals directly associated with the study, management and protection of the waters impacted by the subject "below-cost" timber sales. Although we believe there are many compelling economic and sociological arguments why "below-cost" timber sales are bad for America, I am confining my remarks to the potential impacts of such sales on fisheries resources.

Mr. Chairman, in my brief testimony I hope to make four points which are critical to this issue.

1. Virtually every timber sale and subsequent harvest has adverse impact on fisheries resources.
2. The value of the public land fisheries resources impacted by timber sales is very great and indeed can be far greater than the value of the timber.
3. The cost of fishing values lost and opportunities foregone are not considered in the timber sale cost/benefit analysis done by the Forest Service and the BLM.
4. In order to achieve favorable timber sale cost/benefit analyses, we are extremely concerned that administrators may reduce the environmental constraints or mitigation measures designed to protect fish and the fish habitat.

Editorial Offices
Managing Editor, *Transactions*: PO Box 1150, Columbia, MD 21044 (301) 596-3450
North American Journal of Fisheries Management: 2877 Esch Ave., Ann Arbor, MI 48104 (313) 971-5329
Fisheries, Progressive Fish-Culturist: 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199 (301) 897-8616

Now let me be more specific about these points.

1. Impact of timber sales and logging operations on fisheries resources.

The adverse impacts of logging operations upon fisheries resources include:

a. increased erosion and sedimentation with loss of habitat and smothering of aquatic organisms;

b. increased frequency and magnitude of flooding with loss of fish and devastation of channel stability;

c. stream obstruction by logging debris;

d. increased stream temperatures;

e. increased wind damage to riparian vegetation following removal of protective cover.

Although the road building, skidding, and hauling associated with logging operations will always have some unavoidable adverse impact on fisheries resources, favorable physical circumstances and environmental safeguards generally keep such damage within acceptable bounds. In many instances, however, poorly or callously conceived timber operations can destroy a fisheries resource. Perhaps the classic example was the near total destruction of the South Fork of the Salmon River, which once sustained Idaho's largest salmon run. The value of the timber harvested from the South Fork of the Salmon was about $14 million, and it was less than the cost of the road building necessary to the sale. The Forest Service and the Idaho Department of Fish and Game have estimated that the resulting damage to the anadromous fishery of the Columbia River Basin amounted to $100 million per year. I would be pleased to provide the committee with reports on the Salmon River episode and other less dramatic examples of what can happen when timber sales are poorly planned. The American Fisheries Society believes that "below cost" timber sales include a higher percentage of these high-risk, ill-advised sales.

2. The value of public land aquatic resources impacted by timber sales is very great.

According to reports of the U.S. Forest Service, the waters of our National Forest System support about 16,000,000 fishermen days per year. When we combine this figure with the value of a fisherman day as determined by the U.S. Fish and Wildlife Service, we find that the approximate annual value of FS fisheries resources is 475 million dollars. Mr. Chairman, one way to view this figure is to consider it as the annual "interest" income on the value of the fisheries resource. If we "earn 10% on our money" than the resource is worth 4.75 billion dollars to society. If we add aesthetic value, the figure goes much higher.

Using numbers this large is mind-boggling and difficult to grasp, so let's narrow our focus to something easier to understand. The FS estimates that there are 128,000 miles of fishable streams within their system. The annual economic value of the fishery in each mile of this stream probably averages about $2,400 with some streams worth many times this figure per mile. The authorities who make the timber sale cost benefit studies and those who design and administer the protection and mitigating features should be required to give the protection of these fisheries values full consideration.

3. The cost of fishing values lost and opportunities foregone are not considered in the timber sale cost benefit analysis.

Forest Service planners, in producing their timber sale cost-benefit analysis, do consider the cost of protecting the aquatic environment and environmental mitigation costs associated directly with the project. They do not factor in the fisheries values sacrificed as a result of the project nor the opportunities foregone. The American Fisheries Society believes that if these fisheries values had received attention in the past, many of the favorable cost/benefit projects would have been viewed as unfavorable and many of the "below-cost" sales would have been even more unfavorable. We also believe that much valuable fisheries habitat would have been spared the ravages of logging aftermath.

4. In order to achieve favorable timber sale cost/benefit ratios, administrators may reduce the environmental constraints which protect fish and fish habitat.

We see four general options which administrators might advocate in order to increase project revenues or reduce costs and which also could have adverse consequences for fish and fish habitat. They are:

•.....Increasing the percent of a timber stand that is cut each entry.

As the percentage of an area to be cut with each entry increases, so too does the risk to the fishery due to water yield increases that can alter channel stability and structure.

•.....Increase in harvest from riparian areas.

The timber stand volume along streams can be up to 4 times as great as on drier slopes. Logging of these riparian areas can increase water temperatures, increase sedimentation, and damage channel stability.

•.....Reduction of road costs by "softening" specifications, and deleting or reducing mitigation measures designed to reduce sediment movement into streams.

This alternative has great potential for adverse consequences to fisheries resources, especially in sensitive soils. Rather than be relaxed, road costs should nearly double in sensitive soil types due to sediment reduction measures such as road surfacing, seeding, fertilizing, additional road drainage, relocation to avoid hazardous areas, etc.

•.....Changing to lower-cost logging systems.

There is an inverse relationship between lower cost logging equipment and techniques and higher rates of erosion. Erosion from tractor skidding is 3 times greater than for skyline logging. "Below-cost" sales may frequently be on slopes greater than 35% and on these steep areas an administrative downgrading of logging systems to reduce cost could bring on substantial increases in soil erosion.

•.....A fifth related factor concerns the use of Knutson-Vandenburg (KV) funds for reforestation and habitat improvement. K-V funds are generated from profitable timber sale receipts and may be used to mitigate fisheries resource losses. Below-cost sales generate no K-V funds and the FS does not transfer such funds between forests.

Mr. Chairman, the American Fisheries Society testimony has attempted to demonstrate that "below-cost"timber sales can pose unacceptable threats to high-value fisheries resources. Congress has said that our public lands shall be managed with equal attention to its multiple uses and multiple values. It is time to stop subsidizing timber sales with sacrificed fisheries values.

SOCIETY OF AMERICAN FORESTERS 5400 GROSVENOR LANE • BETHESDA, MD 20814 • (301) 897-8720

TESTIMONY OF
RONALD R. CHRISTENSEN
EXECUTIVE VICE PRESIDENT
SOCIETY OF AMERICAN FORESTERS
BEFORE THE
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
OF THE
COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES
ON
THE ECONOMICS OF FEDERAL TIMBER SALES

JUNE 5, 1985

Mr. Chairman and Subcommittee members, my name is Ronald R. Christensen. I am Executive Vice President of the Society of American Foresters (SAF), the national scientific organization representing 21,000 members of the forestry profession in the United States. I am pleased to have this opportunity to appear before you today to discuss the economics of federal timber sales and SAF's study of "below-cost" timber sales on the national forests.

First of all, let me commend you Mr. Chairman, for the leadership you have displayed in tackling this difficult issue. Not since the dispute which arose in the early 1970's over clearcutting in the national forests have the management practices in the 155 national forests received so much public scrutiny. As in the clearcutting debate, resolution of the issue of "below-cost" timber sales could have significant and lasting impact on the way in which the Forest Service manages the 191 million acres contained in the National Forest System.

The forestry profession is concerned about "below-cost" sales of timber from the national forests. SAF has closely followed the evolution of the issue, from the early criticisms of the Natural Resources Defense Council starting in 1980; to the reports of the General Accounting Office, Congressional Research Service, The Wilderness Society, and the House Appropriations Surveys and Investigations Staff; to the development of language in the report of the House Interior and Related Agencies Appropriations Subcommittee accompanying the FY 1985 Interior Appropriations bill last year. SAF was pleased to see the Interior Appropriations Subcommittee yield to the Forestry Subcommittee the responsibility for assessing the nature and extent of "below-cost" sales and the development of alternatives to address the issue. We are also pleased to see that the Subcommittee, through the series of hearings you have planned, Mr. Chairman, intends to conduct a thorough and objective investigation of the issue in preparing its recommendations for the Appropriations Subcommittee.

The "below-cost" sales issue is extremely complex. As the reports that have already been published clearly demonstrate, the data that are currently available are inadequate to reach an easy solution. For this reason, last year the Society established a task force on "Below-Cost" Timber Sales on the National Forests to study the issue and make recommendations to the SAF Council, our governing board, as the basis for the profession's recommendations for resolving the issue. The task force includes a diverse group of individuals who are knowledgable of the issue and who represent the diversity of the forestry profession. The task force members are:

Dr. Sally K. Fairfax (Chair)
College of Natural Resources
University of California, Berkeley

Dr. Fred Kaiser
Director, Resource Economic Research Staff
USDA Forest Service
Washington, D.C.

Mr. Robert Wolf
Congressional Research Service (retired)
St. Leonard, Maryland

Ms. Patricia Munro
Senior Forest Economist
Boise Cascade Corporation
Boise, Idaho

Mr. Harvey Striplin
President of the Association
of Consulting Foresters
Auburn, California

Mr. Dale Jones
Director of Wildlife and Fisheries (retired)
USDA Forest Service
Albuquerque, New Mexico

Mr. George Craig
Consulting Forester
and Former Executive Vice President
of the Western Timber Association
Oakland, California

Mr. V. Alaric Sample
Yale University School of Forestry and
and Environmental Studies (PhD Candidate)
and previously Forester for The Wilderness Society

Mr. Wayne Ludeman
Director of Timber Supply and
and Private Forestry
Inland Forest Resource Council
Missoula, Montana

Dr. B. L. Driver
Research Forester
Rocky Mountain Forest and Range Experiment Station
USDA Forest Service
Fort Collins, Colorado

Dr. John Beuter
Associate Dean
College of Forestry
Oregon State University
Corvallis, Oregon

The task force is in the process of developing a draft report and plans to have a final product ready for review this fall. For this reason, I am not able to make substantive remarks on the "below-cost" timber sales issue before the Subcommittee today. However, the task force will address many of the questions raised in the hearing charter, and intends to share the results of our analysis and deliberations with the Congress and other interested parties at the earliest possible date. As reflected by the fact that the SAF task force includes many of the authors and key critics of the recent reports on "below-cost" timber sales that have been presented to the Congress -- many of whom the Subcommittee will hear from tomorrow -- I believe you will find the product of our deliberations both soundly based and particularly useful in your consideration of this issue. I hope you will seek out and permit SAF to present the findings and recommendations of our task force when their study is completed. We expect to have the final report available by November.

Once again, I commend you, Mr. Morrison, and the other members of the Subcommittee for your leadership in this issue, and thank you for this opportunity to appear before you.

AMERICAN FORESTRY ASSOCIATION
balanced forest use
Founded 1875
1319 Eighteenth Street NW Washington DC 20036 telephone (202) 467-5810

Testimony of

R. Neil Sampson
Executive Vice President

before the

Committee on Agriculture
Subcommitteee on Forests, Family Farms, and Energy

June 5, 1985

Mr. Chairman. Members of the Subcommittee.

I am Neil Sampson, Executive Vice President of the American Forestry Association. I am pleased to appear here today to present the views of our organization on the Forest Service's timber sale and management program.

The issue of "below-cost" sales has gained a great deal of attention recently. Critics have used the evidence that is readily obtainable from the Forest Service records. Many timber sales — and sometimes the entire sale program of a National Forest or Region — do not return enough revenue to pay for the costs associated with preparing and carrying out the sale.

So much attention has been placed on the Forest Service's difficulty in accounting for the costs and associated benefits of timber sales that Congress appropriated $400,000 last year for the development of an adequate timber sale accounting system. The Forest Service is in the process of developing that system now. We think this is a necessary effort, and we look forward to seeing the results unveiled.

But a new accounting system won't cure the problem, because the problem is not one of accounting. As a matter of fact, we do not think the problem is one of below-cost sales. It is not a problem of too-ambitious road-building programs, either, although there are some who focus on that aspect. And it is certainly not a question as to whether or not the Forest Service knows how to properly manage forest lands — they are clearly the world's leaders in that science and art.

What we have, instead, is a problem of agreement. The American public simply does not agree on how the National Forests should be managed. We have not set goals and objectives that have an adequate public consensus on what is right. We don't agree on what those lands should produce for the public welfare, and we therefore subject Forest Service managers to a bewildering array of public expectations for the forest. Many of those expectations, unfortunately, are not only in conflict, but hopelessly unreal.

Forests, like agencies, can't do everything for everybody or be

Publishers of AMERICAN FORESTS

everything for everybody.

But since these are everybody's forests, it is up to us — the public -- not the Forest Service — to decide what compromises need to be made so that the National Forests produce the best mix of outputs to satisfy the most people over the longest time.

What is needed, therefore, is not another accounting system or another forest planning process, or a new computer program. These are just tools to help us understand if we are actually getting what we asked for in our national goals.

We at AFA feel that Congress needs to take strong leadership in forging a new social consensus about the use of the National Forests. The opinions we hear, as people criticize below-cost sales, new forest roads, new wilderness areas, and draft forest management plans run such a broad gamut that there is little, if anything, that the Forest Service can resolve without your help. We need to decide, for example, the extent to which we feel the National Forests should be a money-making, self-supporting operation.

If the Congress tells the Forest Service to go make money on the National Forest, they will do it. It may not look too pretty, because the clear-cuts may be pretty big and close to the road, and there will be a lot of other values lost as well, but the place will make money. On the other hand, if the Congress is serious about multiple use — if there are many other values, both tangible and intangible — that must be protected in the process of managing the forests, let's be candid about the price that is imposed. There are costs to maintaining many of those values, costs that either must be paid or sale receipts that must be foregone. If the gain is worth the cost, fine. So be it.

But let's not pretend that we can have it both ways. We can't manage for multiple use and environmental quality, while still maximizing revenues on a short-term basis. Private landowners can't do it, and neither can public land managers. We at AFA feel that multiple use management, and the protection of environmental values, is a basic goal of the National Forest System. We think most of the groups who will testify before you will agree with that stand. But we don't agree, I fear, on how that goal can best be achieved, within the realistic limits imposed on each Forest by either legal constraints or ecological reality.

We feel, however, that the last half of the 1980's offers Americans a unique opportunity, as well as a challenge, to re-think and re-state our national priorities on the National Forests. This round of forest planning that has gone on to date has provided us with new insights into the biological facts that were never before available. We now have a chance to predict the outcomes of our actions much better than before. We can compare costs and benefits in much more sophisticated ways, and we can talk trade-offs now that were scarcely recognized only a few years ago.

But the dialogue now must be a social debate, not a technical one. We have to decide what is best for people — all people — in the long run. That is a political debate, one that will certainly not be solved by a computer, and one that may, in fact, already suffer from so many numbers that they cloud our ability to talk about the subject.

The American Forestry Association stands ready, Mr. Chairman, to cooperate in whatever way we can to help this debate move forward. We have long operated on the basis of "areas of agreement." We believe that for every conflict, there is a compromise. Somewhere, areas of agreement can be found among even the most bitter adversaries. The challenge, we believe, is to find those areas. In the process, we can also help each other understand what real choices are open to us. This process can reduce unrealistic expectations — on all sides of the table. We urge the Congress to direct the current debate in that direction, and will be pleased to take part in whatever way is most helpful.

* * *

With this said, I would like to address certain of the questions which the subcommittee raised in the charter for today's hearings, as well as specific concerns which the American Forestry Association has in relation to certain aspects of National Forest planning and management.

The Forest Service is in a unique position with regard to the management of its timber and other resources. Federal land management laws and regulations and public opinion place constraints on National Forest management options which a private landowner, industrial or nonindustrial, would not have to consider. The goals for the National Forest System as articulated in the Multiple Use-Sustained Yield Act of 1960 are as follows:

> It is the policy of Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes...The establishment and maintenance of areas as wilderness are consistent with the purposes and provisions of the Act.

The Act directs that National Forests be managed to best meet the needs of the American people, with management of resources to be coordinated for "multiple-use" benefits and a "sustained yield" of timber and other resource outputs.

Forest Service management is further guided by the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974, as amended by the National Forest Management Act (NFMA) of 1976. These two laws establish long-range planning process to promote foresight in forest resource conservation. Specific provisions of NFMA require that the timber harvesting in a given area hinge on the assurance of adequate reforestation within 5 years after the harvest. NFMA also addressed the need for timber stand improvement work to "improve growing forests to secure planned production of trees and other multiple-use values."

These and other requirements of the law demonstate the intent of Congress to insure that our nation's forests are managed for multiple-use benefits with a sense of stewardship; of encouraging sound investments in and management of the resource today...even though the direct monetary gain from the action may not be realized for years to come, if ever. The degree of success which the Forest Service has at achieving a balance in the consideration given to each of these resources or mandates is the real issue at hand. The "issue" of below cost sales has drawn attention to features of National Forest management which may need to be adjusted in order to fully comply with the letter and spirit of these laws.

Forest planning under NFMA/RPA is still a new and developing science. The agency and the public is in the midst of a learning process regarding the development, interpretation and alteration of forest plans. At present, plans are written in a very technical fashion, in a good faith effort to provide the public with maximum information on which to base their opinions. Unfortunately, this technical presentation, coupled with variations among different forest plans, may make valuable public input more difficult. Very few individuals, or even conservation organizations, currently have the necessary expertise to adequately review these plans. There is also general confusion as to exactly what functions are to be performed in the planning process. These difficulties need to be addressed as the process continues.

In general, AFA feels the planning process must be a useful tool, and not an overwhelming burden to the natural resource manager. A degree of flexibility is required to handle adjustments which must be made in the face of changing public opinions, economic situations, or environmental pressures. Change is the one certainty, the process must be able to adapt to it. But balanced against the requirement of flexibility is a need for consistency, so that a basis for comparison is maintained as information is collected and analyzed for planning purposes.

Timber management and sales in National Forests should be treated as part of an overall attempt to maximize the multiple use benefits of these lands. Timber harvests can provide habitat diversity and increased hunting or recreation opportunities. Forest roads can provide other benefits in addit[illegible]o timber access. These multiple-use benefits, and also the timber sale related costs are appropriate considerations in the planning and accounting process. Such recreational uses, fire and pest control activities, and other potential benefits must be carefully analyzed on a case by case basis, and not assumed to exist for every timber sale.

For example, claiming increased recreational benefits would be inappropriate in an area which already offered ample opportunities for the various forms of outdoor recreation. Additionally, even though timber harvesting can provide various non-timber benefits, it is not always the most environmentally or economically sound way to achieve these goals. Again, sound planning and analysis is a must. Although a necessary tool of responsible management, an after-the-fact accounting of the costs and benefits associated with an action does not satisfy our basic point that these decisions must also be examined before they are made.

The potential benefits must also be weighed against the direct financial and environmental cost of the timber management activity. Timber managment activities can create adverse impacts on wildlife habitats, water quality, air quality, and recreational opportunities. The cost of constructing a road must be considered with all of the impacts, good and bad, of the road's presence, and construction costs should be amortized in some fashion over the useful life of the road. It is also my opinion that the Forest Service has made progress in the area of controlling road costs in last few years, by lowering, where appropriate, the standard of the roads constructed in the National Forest. Such careful planning is necessary to balance the potential gains and losses from timber harvests.

As you know, the Forest Service has conceptualized various alternative accounting procedures for further development and testing. AFA feels that an appropriate accounting system could include consideration of direct and indirect costs and benefits of the timber harvest, as I indicated above. The system would be most appropriate at the Forest level, rather than a sale-by-sale basis. The Forest Service has indicated that the accounting system may be combined with an economic analysis system to provide not only an after the fact accounting system, but also a predictive decision making tool. This decision making tool could be a useful component in the agency's current planning process.

Although timber management does provide multiple-use benefits, Congress did not intend for timber harvesting to occur in every part of our National Forests. Section 6(k) of NFMA requires the Secretary to identify lands not suited for timber production, currently the definition of "non-commercial" lands is based on the ability of those areas to produce 20 cubic feet of timber per acre per year. Given the broad sweep of this standard, its lack of site specificity, and the attention being focused on the issue of below cost sales, it would seem prudent to question the adequacy of this definition. The law provides several logical land characteristics which should be considered, the definition should reflect this.

A more careful preliminary assessment and subsequent designation of which areas are actually suitable for timber production and which are not could resolve many questions surrounding the financial and environmental impact of National Forest timber production. Currently, the agency is managing National Forests in a rather extensive manner. Perhaps intensive forestry could play a more useful role in the management process on designated areas.

The question of which areas should be used for timber production leads us to the question of how the areas that are designated for timber should be managed. The Forest Service does not have an endless supply of land, and it must manage its land in accordance with the various laws and regulations which seek to balance timber and other forest outputs. The Forest Service must therefore manage its lands carefully if they are to continue to be a source of valuable timber and other resources. Recent reports, however, have indicated that the government may not be making an adequate investment in our National Forests.

The recently released report of the Surveys and Investigations Staff of the House Appropriations Committee on the agency's "10-Year Reforestation Backlog Elimination Program" indicates that the agency is not taking adequate measures to reforest the land that is harvested or otherwise deforested. The report concludes that of the roughly 3 million acreas identified as needing reforestation when the program began, almost 2 million of these acres were eliminated from the backlog by administrative reclassification.

While many of these reclassifications may have been justified, the report casts doubts on the reliablity of the backlog program by determining that the agency lacks an overall information system which can provide, with reasonable accuracy, the condition of the forest acres needing reforestation. The report concluded that "reforestation receives low priority in regard to timber sales and other work done by the Forest Service" and stated that although appropriations were more that sufficient to handle reforestation needs, problems of priority, inconsistent management, and conflicting requirements eroded agency effectiveness in fulfilling the intent of NFMA.

The report raised similar concerns about agency attention to the requirements of NFMA regarding Timber Stand Improvement (TSI). TSI includes thinning, pruning, release, and fertilization of stands to improve growing stock. The report states that "insufficient land inventory data available to the Forest Service often causes TSI needs to go unnoticed. The Forest Service maintains that the need to access more remote, perhaps less productive harvest areas to meet demand is a factor in below cost sales. We believe a better approach would be more investment in the continue productivity of current harvest areas. The National Forests should not be "mined" for timber, but rather should be managed in an organized, well-planned fashion, that insures adequate investment in the resource.

MIMEO
#11803

WESTERN TIMBER ASSOCIATION

211 SUTTER STREET, SAN FRANCISCO, CALIFORNIA 94108

FILE
2.411

June 17
1985

Below-Cost Timber Sale Ballyhoo

A Means To An End!

by George A. Craig ACF*

Alleged "below-cost" timber sales on the national forests have become a time-demanding issue for Congressional committees, the Administration and the representatives of timber purchasers. Not a product of chance, this is the result of a continuing campaign--a baseless attempt of preservationists to reduce further the USDA Forest Service's timber sale program.

As a consultant, I have reviewed the issue in depth. It is complex. Basic data necessary to support the findings of several reports on the subject do not exist and other significant factors have not been given adequate consideration.

Getting Attention

Typical of the successful effort to gain attention was the complaint on the November 14, 1984 editorial page of the Wall Street Journal by wilderness advocates. In a lengthy feature, they claimed the Forest Service lost $740 millions of dollars in 1982 and $2 billion over the last decade because of below-cost timber sales.

Privatization advocate Steve Hanke, in a November 29 letter in the Journal, showed some misunderstanding but made a number of valid points regarding the issue and the wilderness advocates' sophistry. He noted their obvious "attempt to cover their preservationist policy recommendations with a fig leaf of economic respectibility."

Such deceptive practices have been displayed in the past by the Wilderness Society, the Natural Resources Defense Council and the Sierra Club. For example, they jointly endorsed and distributed a 1978 leaflet "Forest Serving Or Forest KILLING". Loaded with distortions, the piece was designed to get public pressure for more restrictive planning regulations on the national forests. The Chief of the Forest Service was provoked into publishing a lengthy and detailed corrective statement.

The author of that bit of deception was T. J. Barlow of the NRDC. Barlow was educated to be a medieval historian, and he seems to wish to return to the Dark Ages. Barlow and others wrote "Giving Away the National Forests" which was released by the NRDC in June 1980. It claimed to offer strong evidence that substantial amounts of federal timber are being sold at prices which do not recover Forest Service expenditures to make the sales.

Barlow and company considered long-term investments in permanent roads and in reforestation and timber stand improvement work (including that unrelated to current sales and that funded from current sales) as current operating expenses. Half or all of the cost of multi-purpose roads designed for a life of at least 20 years was expensed to timber at the time of construction.

---

* Prepared for July 1985 publication in The Consultant, official organ of the Association of Consulting Foresters, Washington, D.C.

- More -

The Wilderness Society issued "Below-Cost Timber Sales On The National Forest" by V. Alaric Sample Jr. in July 1984. It declared: "Analysis of receipts and costs for national forest timber sales for fiscal years 1978, 1982, and 1983, reveal that five out of nine Forest Service regions consistently incur net losses on their timber sales. Total losses in these five regions amounted to approximately $443 million for the three years studied."

In testimony to the House Appropriations Committee in April, Assistant Secretary of Agriculture John B. Crowell Jr. and Forest Service Chief Max Peterson found fault with cost data earlier developed by Sample.

Government Reviews

Between the releases from the two preservationist organizations, there were three related reports from stimulated government agencies. The Surveys and Investigation Staff, House Committee on Appropriations reported to the committee in February 1984 indications from FY 1982 data that the values of the harvests were less than the costs on 18 of 37 national forests in Oregon, Washington and California.

"However, considering the regions as a whole, the timber harvest values exceeded the costs," the investigators found.

The House Subcommittee on Interior Appropriations received a State-by-State estimate from Robert E. Wolf of the Congressional Research Service The Library of Congress in March 1984. He found from admittedly deficient data that 23 States over the 1973-1983 period averaged annual negative cash flows ranging from $140 million to $155 million and concluded "the negative cash flow may be higher than these estimates."

Wolf's analysis was made by comparing average annual revenue with "direct timber sale costs reported by the Forest Service in 1982, the only year the agency provides such cost information."

The Comptroller General of the United States issued a report in June 1984 of an analysis of 3,244 timber sales made in 1981 and 1982 in four Forest Service western regions showing that, overall, Forest Service revenues exceeded its costs by $712 million. All of the timber was sold at or above appraised value. However, the GAO alledged the Forest Service awarded numerous sales--27 percent in 1981 and 42 percent in 1982--in which its costs exceeded revenues. The deficts were reported to be $64 million and $92 million, respectively."

A detailed analysis by the GAO of eight below-cost sales led to the conclusion that future values would not offset current losses. As will be discussed below, this finding and most of those above are questionable, probably in substantial error and generally inappropriate.

More recently, the Congressional Research Service released an overview of the Federal timber business, titled "Federal Timber Sales" and dated February 15, 1985. Professor John H. Beuter was hired for this job. In 136 pages, he presented background information and reviewed national forest timber sales for FY 1981 and FY 1982.

Relying primarily on "bid values," Beuter attempted to determine "net benefits" and cash flows from the sales. He found that the Pacific Northwest was the only region of the six to have a positive cash flow in FY 1982, and it

- More -

was enough to yield a positive cash flow of $29 million for all six regions combined. As noted below, there are problems with his approach.

Other Resources and Other Times

The critics generally ignore the Forest Service's obligation to manage all of the resources on each national forest under one integrated plan to meet present and future needs of the American people. They do not recognize that the preparation, offering and administration of each timber sale is part of a continuum of activities to manage, protect and produce a mix of resource values and services to a variety of consumers over an unlimited time period. These obligations have been spelled out in considerable detail in the law, as described in the accompanying summary.

The critics have neither looked behind the cost data to see the extent to which they should and can be allocated to the management of other resources nor do they attempt to balance costs against all the resulting benefits, financial and otherwise, present and future.

Timber sale offerings are commonly designed to serve more than one resource. Some are intended to improve forage for big game animals and domestic livestock while reducing fire hazards and forest pests as well as converting a decadent forest to a healthy one that can use the timber growth potential of the site more effectively. Others may serve to improve vistas, provide access to Wilderness areas and improve upland bird hunting. Some are aimed at salvage of dead and dying timber. The combinations are as varied as the natural areas they treat and the services they seek to provide.

Most of the eight "below-cost" sales examined by the General Accounting Office were designed to serve several purposes, as GAO auditors could have learned if they had looked at the environmental assessment for each of the sales they said they "reviewed in detail."

One of them--the East Chewack Sale--required costly helicopter logging to provide a visually-attractive stand near a major recreation area in the Chewack River bottom. It will provide access to the Pasayton Wilderness Area and transitory range for mule deer, which require 40 percent open area for optimum habitat. This is part of the best mule deer area in the State of Washington. The harvest objective included returning the stand to attractive old-growth pine by removing the Douglas fir that is coming in with protection against fire.

Such a harvest objective tends to leave some of the highest values, increase costs and reduce revenue. If timber value were the sole objective, the harvest and income would have been substantially different.

The Forest Service's estimates of the outputs other than timber associated with the 1984 timber sale program include: 5.9 million days of wildlife/fish use valued at $128.4 million, 24.7 million visitor days of recreation valued at $137.4 million, 148,000 animal unit months of range use valued at $1.6 million, and 570.4 million board feet of free-use fuelwood obtained by 207,600 users and valued at $2.6 million. This totals $269.6 million.

Timber payments in cash and roads totaled $881 million, as discused below. Receipts from recreation (including wildlife/fish use) totaled less than $28 million in 1984.

- More -

Problems With Costs

The GAO, Beuter and others acknowledged there are problems in attempting to analyze existing cost data, but they all inappropriately attempted to do so. Beuter candidly said: "The analysis has significant limitations. . And, from an accounting standpoint, this analysis leaves much to be desired. The costs, net benefits and cash-flows are rough estimates at best because of the coarseness of the cost data and the uncertainty of the relationships between bids and payments for a given sale."

Timber management funding in 1984 was $141.9 million, and $45.6 million was provided for timber harvest administration. Of this amount, $8.4 million went to support other resource programs. As noted above, the value of the harvest in cash ($760 million) and roads was $881 million.

Timber management funding provides for a flow of timber preparation effort necessary to make offerings a number of years ahead, as well as long-term planning and traditional forest management activities. All timber management funding should not be charged against current timber sales, as some critics do.

Expensing Permanent Roads

Barlow is only one of the critics that have mishandled road costs. They have commonly been treated as a much larger charge against current timber sales than they should be. With at least the designed life of 20 years, the roads built in conjunction with sales commonly having terms of 3 to 4 years should serve much more timber as well as the protection, administration and use of other resources.

The Forest Service reports that 7,649 miles of road were constructed or reconstructed for the National Forest System in 1984 at a cost of $372 million. Of this total, 5,507 miles were built by timber purchasers. Another 475 miles were built by the Forest Service at the request and cost of "small purchasers."

Timber purchasers receive credit for the cost of the roads they build to Forest Service design or pay the Forest Service to build. Such "Purchaser Credit" can be used to meet charges for timber bought from the Forest Service, if there is sufficient value in the timber to meet the cost of the required road and required minimum cash charges for timber. Some critics treat such credit, the related engineering costs and Forest Service construction that may serve timber as all chargeable to the timber program.

Purchaser Credit in the West should be recognized as the conversion of an asset value in timber (that commonly has been producing little growth and no financial return) to roads that will produce financial and other benefits for a long time. The problem with trying to quantify such benefits for an approriate cost/benefit analysis is the great variety of conditions related to various elements of the road system as well as the problem of realistically assigning dollar values to a number of the resource benefits.

Reforestation, Sale Area Betterment & Salvage

Similar to roads, investments in reforestation and timber stand improvement are largely met by converting value in standing timber to a productive asset. Of more than 376,000 acres of national forests reforested in 1984,

-More-

195,000 acres were funded from tinber payments. Timber stand improvement work was done on 362,000 acres, including 112,000 acres funded from timber receipts. The total cost was nearly $197 million, including over $106 million from timber payments. Deposits under timber sales may be used for improving wildlife habitat and other resources.

Barlow treated as current operating costs the long-term investments in reforestation and timber stand improvement whether or not they came from timber sale payments or from appropriated funds used where no timber was being sold. On such nonsense was his "below-cost timber sale" argument built.

Under a special account, some timber receipts are used to fund the salvage of insect-infested, dead, damaged, or down timber. About 1.1 billion feet of salvageable timber was sold in 1984, including approximately 760 million board feet under this fund. Including some costs for engineering necessary for roads, the total amount of the fund used in 1984 was $12.8 million.

In an evaluation of the timber sale program, it is inapproriate to offset against current timber sale values such expenditures for reforestation, sale area betterment (including wildlife habitat), reduction of fire hazards and insect infestations, improving the general health and potential productivity of the forests. Howuver, some of the critics would do so.

Revenue Sharing & Social Consequences

By law, the States receive 25 percent of receipts from the national forests to be used for roads and schools by counties having national forest lands. This amounted to $192.7 million in 1984.

Although the bulk of such in-lieu-of-tax payments come from timber related activities (most of which involve sales made in earlier years) it is not appropriate to charge it all as a cost of timber sales, particularly those in one year. The several critics who have done so are in effect ignoring the other land and resource values that are normally subject to property taxes to support local government. They treat such revenue sharing as an income tax on timber.

Many critics ignore these and other social benefits from timber sales. Reduced timber sales would also mean many western communities would lose personal income, employment and tax base, and suffer the increased cost of assisting the unemployed and other disadvantaged people. National losses would include increased prices for wood products and reduced revenue, including taxes. Timber sales would be used less to enhance other resource values, and the productive capacity of more timberland would be wasted.

Timber Support and Management

Critics have commonly treated "timber support" costs as a charge against current timber sales. In 1984, such funding totaled $85.2 million. Of this, 31.9 million was for road maintenance. Timber purchasers perform or pay for all road maintenance made necessary by their use of roads on the national forests. The Forest Service is obligated to do maintenance related to public use.

The second largest item of support funding was $22.1 million for the identification of the legal boundaries between the national forests and adjacent ownerships. Total funding for such work on the national forests in 1984 was $29.2 million to complete 69,401 miles. Obviously, the assignment of an appropriate share of the cost of such work (necessary to the management of

- More -

all resources, now and in the future) would be difficult, but charging the current timber sale program with such a large share is indefensible.

Funds for other resources (recreation $8.3 million, wildlife/fish $8.4 million, and soil and water $8.5 million) were all part of the "support" item. Mineral and range each had nearly $900,00 of such funds. These expenditures contribute to the development of unquantified present and future values besides those from timber. Forest fire protection received $4 million of the total.

It should be noted that $6.4 million of timber management funds were used to support other resource programs. All of this illustrates the coordinated management of the national forests required by law, and the impossibility of appropriately assigning costs to individual timber sales from current records.

Other Problems with Below-Cost Reports

Claims that below-cost timber sales are common are questionable for other reasons, including use of data from the lumber-depression year of 1982, failures to recognize the effects of inflation, the use of "statistical high bids," and differences between bid and actual rates of payment.

Most of the critics have relied heavily on 1981 and 1982 data. In the four years ending with 1982, the U.S. lumber industry suffered its greatest drop in demand in more than 55 years. This caused a sharp but temporary reduction in the value of national forest timber and a substantial reduction in timber harvest under existing contracts.

Lumber shipments from the Western Pine Region in the 1950s, 1960s and 1970s averaged, respectively, 8.2, 9.7 and 9.8 billion board feet per year, compared to 7.2 and 6.8 billion in 1981 and 1982. Prices in constant dollars for Douglas fir and the true firs in 1981 were more than 20 percent below the averages for the 1973-1980 period. In 1982, they were down more than 35 percent.

Timber harvest on the national forests in FY 1981 was 20 percent below the average for FY 1977-1980. The FY 1982 harvest was 33 percent below such average. By FY 1984, the harvest had risen above the average. Volume sold in 1982 for future harvest was a billion feet less than the average over the prior five years. The reduced outputs increased the unit cost used by critics.

The effects of inflation were ignored by most of the critics. The GAO, for example, compared statistical high bids from 1973 to 1982. For Region 6, where nearly half of the western timber is sold, the average 1982 statistical high bid in current dollars was 22 percent below the average for 1973, but in constant dollars the drop was 60 percent. Wolf used 1982's inflated costs to compare with revenues in current dollars over several earlier years.

The use of "statistical high bid" is unfortunate, because it obscures the true value of the timber being sold and harvested by deducting the cost of permanent roads from the actual bid value. Thus, permanent road costs are expensed rather than treated as long-term investments.

Stumpage rates are adjusted quarterly for a large majority of the timber sold from the western national forests. Contracts may have terms of from 2 to 6 years. Such adjustments are made within individual limits specific to each contract. Although some critics noted that rates would be adjusted, none of

- More -

them attempted to describe the magnitude of the adjustments and the effect on actual payments to be made years after bidding.

Beuter used three 1982 timber sales in California to illustrate net benefits and cash flows. The China Sale of 16 million board feet (including 2.7 MMBF of low-grade hardwood and cull) terminates in 1987. The Wilder Sale (7.3 MMBF) and the Cooper Sale (12.8 MMBF) terminate in 1986.

Using bid rates (and a variety of the questionable charges discussed above), he found the cash flow from these sales would be China -$68,950, Wilder -$218,940 and Cooper +$471,807. However, if all three sales were completely harvested during the higher lumber market four calendar quarters after bid, the purchasers would have had to pay in cash an additional $301,734, $144,094 and $317,907, respectively.

Why Timber?

Why have the below-cost critics focused on timber, the greatest revenue producer of the national forest resources? Why not recreation, where funding in 1984 was reported as $100.9 million and receipts as $27.5 million? The cost of Wilderness management was $6.8 million, and receipts were minimal.

If they are truly concerned about economical use of forest resources, why have they not recognized the opportunity for much greater income from increased sales of timber? With 1.. trillion board feet of sawtimber outside of reserved areas, the national forests have 41 percent of the nation's total. About one percent of this was sold in 1984, much less than what could be sold under sound management.

The national forest yield only about 20 percent of the nation's sawtimber harvest. What are the holding costs for the unused timber assets? There is partial evidence in the large volumes of dead and down timber on the national forests.

More could be sold, particularly if offered without as much obligation to serve other and future uses. In the 1963-1968 period, when housing starts averaged less than 1.5 million per year, Forest Service annual sales were 11.7 billion board feet, including 10.6 billion of sawtimber. In the 1983-1984 period, when housing starts averaged over 1.7 million, an average of 11 billion feet (including pulpwood and fuelwood) were sold, including less than 8.3 billion of sawtimber. The administration expects housing starts to average 1.9 million in 1986-1990, when timber now being sold will be harvested. With more reasonably-priced timber, American producers could compete with Canadians in serving the larger market.

The base year for the RPA Program of the past five years was 1978, when the Forest Service offered 12.2 billion feet (including pulpwood) for sale. Preservationists are objecting to the Administration's proposal to offer 10.7 billion feet (including perhaps 8 billion feet of sawtimber) in 1986.

Ah, Wilderness!

On the other hand, let's look at Wilderness. According to the Wilderness Act of 1964, "Wilderness is an area where the earth and its community of life are untrammeled by man." Prior to its enactment, Senator Church and Congressman Saylor, sponsors of the legislation, indicated the ultimate area to

- More -

be designated in the national forests would be close to that already preserved by administrative action, about 14 million acres. In the RPA Program base year, 1978, there were 15.3 million national forest acres in the system.

Today, there are 32 million acres (17 percent of the national forests area) committed to have "the imprint of man's works substantially unnoticeable." Banned are timber harvests, recreational facilities, and the development of oil, gas or electric power.

Never satisfied, the Wilderness advocates continually press for more. The size of the National Park System has nearly trebled in the past 20 years, while the National Wilderness Preservation System has grown from nothing to be 18 percent larger than the National Park System. It includes 88.5 million acres administered by four agencies. Millions more acres have been proposed for preservation.

The Wilderness advocates' propaganda effort has been facilitated by the complexity of the legislated Forest Service program. They have been sucessful in stimulting others, reasonably concerned about economy in government, to question the timber program on the national forests.

Costs/Benefits for All Resources

Certainly, there are opportunities for the national forests to provide more values more efficiently. This will not happen, however, if policy decisions are based on such faulty analysis as that recently provided in respect to below-cost timber sales.

National forest timber cannot be viewed in isolation from all the other resource objectives the Forest Service is attempting to achieve. Although the cost of timber management and sale administration in 1984 was only 21 percent of payments made in cash and roads by timber purchasers, that does not present the full picture.

The Forest Service has estimated values from the 1984 timber sale program exceeded costs by 220 percent, but appropriately noted that is only part of a continuing story. Their estimate for 1984 is also questionable, but it did attempt to recognize more of the values that should be considered for one year.

Timber sales that are truly "below cost" are those where the net present value of the forest (recognizing all actual monetary income, other benefits and costs, monetary and otherwise) is reduced because of the sale. Thus, all costs and benefits must be quantified and compared, recognizing the difference between current operating costs and long-term investments as well as costs not readily quantified in dollars.

Elements of Forest Service programs are not suitable for cash-flow analysis, because many of the values produced under the coordinated management of resources are not readily quantified in cash and production costs are not readily separable. On the other hand, efforts to develop least-cost approaches to achieving program objectives have merit and should be pursued.

The Resource Planning Act of 1974, as amended, provides a systematic way to make evaluations and to set program goals to serve national needs with an interdisciplinary approach and public involvement. Prescribed by the Congress, it has been developed at great cost. The system should be permitted to work.

#

-More-

NATIONAL FOREST MANAGEMENT UNDER LAW

By law, the timber sale program must meet such objectives and requirements in national forest managment as:

"No national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States. ."[16 U.S.C> 475]

The Secretary of Agriculture is authorized and directed to develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom . ." [16 U.S.C. 529]

"'Multiple use' means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet tne needs of the American people; . . and harmoneous and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

"'Sustained yield of the several products and services' means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of tne national forests without impairment of the productivity of the land." [16 U.S.C. 531]

"[I]t is the continuing policy of the Federal Government . . to use all practicable means and measures . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." [42 U.S.C. 4331]

[A]ll forested lands in the Naional Forest System shall be maintained in appropriate forest cover with species of trees, degree of stocking, rate of growth, and conditions of stand designed to secure the maximum benefits of multiple use sustained yield management in accord with land management plans . ." [16 U.S.C. 1601]

"In developing, maintaining, and revising plans for units of the National Forest System . . the Secretary shall assure that such plans--

"provide for multiple use and sustained yield of the products and services obtained therefrom . . and, in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness . .

"form one integrated plan for each unit of the National Forest System, incorporating in one document or one set of documents . . all features required by this section; . .

"provide for diversity of plants and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives . .

- More -

NF Management Law - 2

"insure that . . the harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber . .

"insure that, prior to harvest, stands of trees throughout the National Forest System shall generally have reached the culmination of mean annual increment of growth . . Provided That these standards shall not preclude the use of sound silvicultural practices, such as thinning or other stand improvement measures; Provided further That these standards shall not preclude . . salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow or other catastrophe, or which are in imminent danger from insect or disease attack . ." [16 U.S. C. 1604]

# # #

MAY 28, 1985

DOCUMENT
RECORD NO._____ AUTHOR dam/GC
CATEGORIES 11150
LETTERS_____

STATEMENT BY CAROLE KING SORENSEN June 13, 1985

Members of Congress: I don't think most Americans are aware of how badly they're being taken advantage of by the Forest Service. If people are aware of the Forest Service at all, they usually think Smokey the Bear is in charge. We'd probably be a lot better off if he were. The officials in charge of the Forest Service seem to care less about the forest than they do about the large corporate interests who benefit from abuse of Federal lands, as exemplified by strip mines used by big oil companies for tax writeoffs; the continuing construction of unnecessary roads; and taxpayer-subsidized deficit logging projects presently under investigation by this Committee.

By way of background: I've lived in Idaho for eight years. Four years ago I moved to my present home, which was originally deeded by President Woodrow Wilson to the late Senator Frank Church's father-in-law in 1919. The property remained in Senator Church's family until 1970, when it was sold to avoid any possible conflict with Senator Church's involvement in legislation to preserve Idaho's wilderness. The ranch passed through several owners before my husband and I acquired it in 1981. Shortly after we bought it, we discovered our home was targeted by the Forest Service's "land acquisition experts;" it is through my personal experience as an owner of this property that I became acquainted with some of the Forest Service's wasteful practices, which include the road building campaign.

Forest Service officials claim roads into roadless areas are needed to meet projected timber sales, which then become necessary to justify the roads. They say the roads will also benefit the public by providing recreational access to national forests. They call this "multiple use." But if the Forest Service is really concerned about recreation, why do they want to put roads into the places most desirable for recreation exactly because they're inaccessible to motor vehicles? And why does the timber industry pretend concern about access for the elderly and handicapped when they own some of the small aircraft, rafts, and jet boats that currently provide access into wilderness for many elderly and physically disabled people? I don't believe such people want to see the wilderness destroyed just so they can drive into a former wilderness. In fact, the proposed roads aren't necessary and, if constructed, will put a fair amount of Idaho's outfitters, guides, and related industries permanently out of business.* This is "terminal use."

---

* For more information, please refer to the Idaho Outfitting and Guiding Industry Economic Impact Study by James M. Lansche

STATEMENT BY CAROLE KING SORENSEN June 13, 1985

Forest Service figures show approximately 55,000 miles of existing roads in Idaho's national forests. Although some of the forest plans have not yet been released to the public and projections vary, available information provided by the Forest Service indicates something like 11,000 additional miles planned for the next decade.* At a cost of approximately $100,000 per mile,** these roads will cost the Federal government $1,100,000,000.00 -- one billion one hundred million dollars -- in Idaho alone. Timber from those areas may yield one tenth that amount, at a loss to American taxpayers of over 890 million dollars. That's without figuring in costs for management, reclamation, and other costs to the taxpayer "lost" in the Forest Service shuffle.

If destruction of national forests in Idaho alone will cost American taxpayers over 890 million dollars, figuring similar expenditures for other states, considering this Administration's veneer of concern over the national deficit, this is unjustifiable. We can't help family farmers, but the Forest Service is allowed to squander enormous amounts of money on Federally funded corporate welfare, which they call "management." What they "manage" is to spend their entire allocation for the year so they can ask for more the next year, Pentagon-style. The economics don't make sense. Why are we paying the timber industry to destroy our property?

Tourism is a major part of the economy in states like Idaho with large amounts of wilderness, a renewable resource providing hunting, fishing, hiking, watershed, habitat for wildlife, a lot of which is already vanishing because they're running out of places to live. The proposed roads will destroy that economy. People from all over the world visit Idaho because of its wilderness, not its clearcuts and strip mines. Tourism supports Idaho's Department of Fish and Game, plus outfitters, guides, packers, and related industries such as motels, restaurants, sporting goods stores, groceries, tack shops, saddle makers, transportation industries, and so on. I know we're talking about economics, but wilderness also provides something beyond measure in economic terms: elevation of the human spirit.

---

* On October 31, 1984, the New York Times projected a cost of over $2 billion over the next four years for 21,000 miles of log haul roads in roadless areas in Idaho, Montana, and northern Wyoming.

**based on a Forest Service estimate of $84,000/mile using 1978 $

STATEMENT BY CAROLE KING SORENSEN June 13, 1985

I recommend the following:

First, consider the primary interest of Chief Forester Max Peterson. He's a specialist in road engineering. He's also head of an agency whose officials don't have to answer to anyone but themselves. My husband and I prepared a report with supporting evidence and photographs documenting misconduct by Forest Service officials. After the pretense of an investigation by the Department of Agriculture, the material was turned over to the officials in question for review and judgment. I didn't really expect them to confess; predictably, they decided they did nothing wrong, case closed.

This is not an isolated case. Forest Service officials make decisions affecting all Americans and their property with no personal responsibility. They're immune. If their actions are challenged by an individual, the resources of the entire United States Government are marshalled against that individual and paid for with his or her own tax money.

I recommend Congress make these officials personally accountable. They should have to consider the consequences to themselves personally of any decision they make, notwithstanding their alleged concern about "a chilling effect on the deliberative process." As it stands now, concern about their "G" rating* supersedes any motivation to care about the people whose lives and livelihoods are at stake.

Second: I recommend designation of all remaining roadless areas in Idaho and Montana as wilderness. The two states are separate but contain one contiguous ecosystem which should be protected. I urge Congressional protection of all remaining wilderness because there's so little left and the compromises have been going on for decades.

Bob Marshall was a forester who worked mostly during the '20's and '30's to preserve as much wilderness as possible. When asked, "How much wilderness do we need?" he replied, "How many Brahms symphonies do we need?" A similar question put to Ronald Reagan elicited the response, "You've seen one redwood, you've seen 'em all." If the wilderness could speak, it would probably ask, "How much development do we need?"

---

*The "G" rating affects rank and pay of Forest Service officials.

STATEMENT BY CAROLE KING SORENSEN June 13, 1985

At the very least, I recommend an immediate moratorium on roads in roadless areas. Don't give them the money. It's needed elsewhere. Figures from 8 out of 10 national forests in Idaho show that more than 1/4 of the volume of timber offered in 1984 was not sold. Of that sold, there is a backlog of timber that remains uncut. Plans for proposed roads are based on an assumption of sales and cuts way beyond the levels of recent years which have actually taken a downward trend. A moratorium won't hurt anyone since there is still a backlog in areas that already have roads. The benefit of the doubt should be given to the wilderness, which can't be made roadless once roads are built.

Third: Roadbuilding and trail construction/maintenance are part of the same item in the Forest Service budget, effectively hiding the road costs. Other wasteful expenditures are similarly hidden. For example, in 1983, the Forest Service performed an unnecessary survey moving our property boundary for purposes of harassment at a cost of $1,163 to American taxpayers. Forest Service officials say this survey was paid for with "Protection and Maintenance" funds, whatever that means. It's not uncommon for the Forest Service to list items they want to hide under misleading or ambiguous designations in their budget. Therefore, I recommend Congress withhold the allocation for items not clearly itemized in plain English. The money thus saved could reduce the Federal deficit substantially.

It should also be noted that in the Forest Service budget for FY 1983, resource development items totaled about $600 million. On the other hand, resource stewardship programs totaled $170 million, less than a third of that budgeted for development. Although it's hard to tell from the budget, maintenance of existing roads and trails in Idaho's national forests has decreased since I've lived there.

Congress needs to redefine the Forest Service's priorities for the officials in charge. By now it should be obvious that they won't do it themselves. Their reasons in defense of development as a priority don't hold up economically and in any case are not in the national interest. I recommend Congress redefine the mandate of the Forest Service in no uncertain terms, placing a priority on the responsible guardianship of our national forests so they will still be of value to our children and grandchildren. I recommend this be accomplished by legislation, and more immediately, by allocating Federal funds only for programs necessary for stewardship and clearly itemized in plain English in the Forest Service budget.

STATEMENT BY CAROLE KING SORENSEN June 13, 1985

Fourth: a lot of Congressmen and women are conscientious about their responsibility to the electorate, but unfortunately, some are not. In states like Idaho with a lot of Federal land, some elected officials are easily persuaded to be more responsive to the big oil and welfare timber corporations who contribute heavily to their campaigns than to the people they're supposed to represent. Some have deliberately misinformed their constituents about wilderness.

Everyone should be aware of the negative impact of corporate welfare on all Americans, including those who don't live near Forest Service land. City dwellers may not realize how building unnecessary roads in Idaho at a loss of $890 million will cost them more in Federal taxes or decrease Federal services where they are actually needed.

All Americans need to know how much of their tax money the Forest Service is wasting. I appreciate that these hearings are helpful, but don't let it stop here. I recommend members of Congress keep their constituents informed and come up with legislation to reorganize the Forest Service so its officials serve the forest and the American people instead of the highest bidder.

Thank you.

-END-

ECONOMICS OF FEDERAL TIMBER SALES

THURSDAY, JUNE 6, 1985

House of Representatives,
Subcommittee on Forests, Family Farms, and Energy,
Committee on Agriculture,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 1302, Longworth House Office Building, Hon. Charles Whitley (chairman of the subcommittee) presiding.

Present: Representatives Foley, Weaver, Olin, Morrison, Marlenee, Chappie, Smith, and Schuette.

Also present: Representative E (Kika) de la Garza, chairman of the committee.

Staff present: Phillip L. Fraas, counsel; Robert T. Lowerre, associate counsel; John E. Hogan, minority counsel; Glenda L. Temple, clerk; Bernard Brenner, Nick Ashmore, Charles Rawls, and John Conrad.

OPENING STATEMENT OF HON. CHARLES WHITLEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA

Mr. Whitley. The Subcommittee on Forests, Family Farms, and Energy will come to order.

This is the second day of a 2-day hearing which is a continuation of our earlier hearing on the subject of so-called deficit sales or the economics of sales of timber from our Nation's national forests. In the first hearing, we heard witnesses from the Forest Service. In yesterday's hearings, we heard primarily the representatives of environmental groups. Today, our witness list consists primarily of representatives of the forest products industry.

It is the intent of the subcommittee to develop well-balanced testimony and information from all sectors involved in this very complicated question to the end that we can assist in evolving a rational policy on this issue so that it doesn't just come up continuously in the various committees and subcommittees having some jurisdiction and that it is seriously addressed in this subcommittee which, we feel, has the primary jurisdiction.

As we did yesterday, we will have our witnesses come forward in panels. We wish to announce that each written statement will be accepted in its entirety and included in the printed record of the hearings, if you summarize your prepared statement. However, in the interests of time and in an effort to see to it that we reach all the witnesses, we ask that each witness, in his oral presentation, summarize his testimony for the record, and we would hope that the summary not exceed 5 minutes.

We welcome this morning the chairman of the full committee, Chairman de la Garza, who could not be with us yesterday because he was chairing the Committee of the Whole House on a very important issue. Mr. Chairman, we would be glad to hear any comments you might have.

The **Chairman**. Thank you very much, Mr. Chairman.

I have no comments except to commend you for conducting these hearings. I regret I was not able to be with you yesterday, but I will be here part of the time today, and I look forward to hearing from the witnesses.

Thank you.

Mr. **Whitley**. Thank you, Mr. Chairman.

I might add that the chairman and I and some other members of the subcommittee and the full committee plan to go to Mexico for the World Forestry Conference around July 1.

Mr. Smith, would you care to make any comment at this time?

OPENING STATEMENT OF HON. ROBERT F. SMITH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. **Smith**. Thank you, Mr. Chairman.

I want to add my thoughts to those already expressed, Mr. Chairman, because below cost sales is such an important issue. The panels that we have already heard from along with today's presentation will give this subcommittee the background we need to make decisions regarding this very important issue.

So, I thank you for that, and I, too, look forward to today's witnesses, particularly those from the Pacific Northwest, including a gentleman that I haven't seen for a very long time, Mr. John Davenport. I look forward to listening to these gentlemen, and I hope that we can reach some decisions that will be beneficial to the timber industry.

Thank you.

Mr. **Whitley**. Mr. Schuette.

OPENING STATEMENT OF HON. BILL SCHUETTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. **Schuette**. Thank you, Mr. Chairman.

I echo the comments and expression of our chairman and you, Mr. Chairman, and my colleague, Mr. Smith. I know how important the timber industry is to Michigan and certainly all parts of this country. I, for one, have great pleasure in having a friend of mine and an active member of the timber industry speak this morning. It is not far from my district, certainly, a stone's throw away.

We have had a well-balanced set of testimony and statements, both back in February and yesterday. I think now hearing from the industry representatives themselves will be, again, another added input to this well-balanced panel that you have conducted, Mr. Chairman. So, I congratulate you as well and commend you.

Thank you.

Mr. **Whitley**. Thank you.

At this time, we will call our first panel forward, consisting of Mr. Richard G. Reid, Mr. James Sitts, Mr. Richard Wilhite, Mr. James R. Craine, and Mr. Stephen A. Bennett. Our first scheduled witness is Mr. Richard G. Reid, executive vice president of Inland Forest Resource Council and representing the National Forest Products Association of Missoula, MT.

Mr. Reid, we welcome you here, sir, and we look forward to hearing your statement.

STATEMENT OF RICHARD G. REID, EXECUTIVE VICE PRESIDENT, INLAND FOREST RESOURCE COUNCIL, ON BEHALF OF INLAND FOREST RESOURCE COUNCIL AND THE NATIONAL FOREST PRODUCTS ASSOCIATION

Mr. REID. Thank you, Mr. Chairman.

I would like to thank you and the other members of the subcommittee for inviting us to testify today. At the end of our presentations, we hope you will have a clear picture as to how the industry views this complex issue and what we recommend be done.

This issue about the profitability of the Forest Service timber sale program is important to all parts of the forest products industry in all geographic regions. About 26 percent of all the timber consumed in the United States comes from Federal lands. Thus, we have a strong interest in any matters which might affect the supply of publicly owned timber.

Critics of the Forest Service timber sale program have claimed that a substantial portion of these timber sales cost more to prepare and administer than they return to the treasury. Some have suggested that sales levels should be reduced if Forest Service costs exceed stumpage receipts. Obviously, this issue is of great concern to all those who depend on the public timberlands as a source of their livelihood. We feel that there are some elements of this issue that have been ignored or underemphasized in the debate thus far.

In 1984, there were four analyses of the profitability of the Forest Service timber sale program, three by various arms of the Congress and one by the Wilderness Society. They all came up with essentially the same conclusion, that is, there are national forests with below cost timber sales when measured on a short-term, cash-flow basis. Unfortunately, none of these studies come up with the same numbers, and they all used different analytical techniques.

Mr. Sitts will describe some of the reasons that these studies provide inadequate and conflicting information. Other witnesses will speak about other technical aspects of the issue which must be considered. At this point, let me just say that it is our view that there is not sufficient information about the costs and benefits of the timber sale program to support any major changes to the statutory authority under which this program is administered.

The Forest Service is making a good faith effort to create an accounting system which will identify the appropriate costs and benefits of the timber sale program. Until this effort produces a better picture of costs and benefits of the timber sale program, efforts to address policy questions are, at best, premature and, at worst, an attempt to use inadequate information to argue a case quite different from whether the Forest Service is making sound investment decisions.

Once good information about the existing situation becomes available, Congress will be in the proper position to discuss the relevant policy questions such as, how should the profitability of the Forest Service timber sale program be evaluated in light of the existing laws governing management of the national forests? Should the existing mandate be changed to reflect the current fiscal realities? Are there valid reasons to offer sales judged to be unprofitable from a short-term, cash-flow standpoint?

We still have not answered the first question. The industry believes that the recent cash-flow analyses are inadequate to answer any of these questions. Until there is agreement on the proper measuring stick, and until a system is in place to create those measurements, we will all have to be patient. For our part, we will refrain from any comments about the short-term profitability of the other multiple uses. In the meantime, we urge the Forest Service to move forward with efforts to reduce timber sale costs where possible, and urge others to become involved in the Forest Service timber sale accounting system study.

At the end of my written statement is a list of those who will be testifying for the industry and the topics they are going to cover. I would now like to introduce Mr. Jim Sitts of the Columbia Carolina Corp. to review the present accounting controversy in greater detail.

[The prepared statement of Mr. Reid appears at the conclusion of the hearing.]

Mr. WHITLEY. Mr. Sitts, we will be glad to hear from you at this time, sir.

STATEMENT OF JAMES SITTS, TIMBER MANAGER, COLUMBIA CAROLINA CORP., ON BEHALF OF THE SOUTHERN APPALACHIAN MULTIPLE USE COUNCIL

Mr. SITTS. Good morning, Mr. Chairman, and members of the subcommittee. Thank you.

I am timber manager for Columbia Carolina Corp. and president of the Southern Appalachian Multiple Use Council. As timber manager for the Columbia Carolina Corp., I am responsible for logging our plywood plant that requires approximately 20 million board feet of yellow poplar saw logs annually, some of which comes from Federal lands. The Multiple Use Council generally represents small, family-owned sawmills in western North Carolina that are either totally or partially dependent upon public timber for their resource needs. As you know, western North Carolina's forest resource is primarily national forest.

Over the past several months, the Forest Services' timber sales program has been criticized for below-cost timber sales. Much of this controversy was generated by three studies of the Forest Service timber sale program performed by the General Accounting Office, the Congressional Research Service, and the Wilderness Society. We have substantial problems with the methodologies employed and the conclusions drawn by these studies.

The data used in these studies are not appropriate. All timber sale program costs fall into the following categories: sale preparation and administration costs, resource support costs, reforestation costs, and road engineering and construction costs.

The Forest Service has warned that the sale preparation and administration costs include more than those costs that are directly attributable to timber sales. These costs include forest land management planning, the sale of other forest products, and participation in other forest activities by timber sale personnel. Furthermore, the Forest Service noted that investment costs are all part of the road capital investment and cannot be expressed against a single project or year.

The conclusions of these three studies illustrate the limitations of these data. Each of the studies has a different estimate for the overall losses of selling timber from national forest lands. The spread is over 1,000 percent. The present Forest Service accounting system cannot provide individual resource information because the data only approximate the true costs of a particular resource program.

Moreover, a single year cash-flow analysis does not measure the profitability of the timber sale program. An overall economic analysis is needed to account for all the market and nonmarket benefits. A cash-flow approach is misleading. It is impossible to consider the efficiency of a program when information about a portion of the total benefits and costs is unknown.

Additionally, an important difference between cash-flow and economic analyses is their applicability under the laws governing the Forest Service Section 6(k) of the National Forest Management Act identifies economic factors as only one of the considerations in identifying lands not suited for timber management. Moreover, the Multiple-Use and Sustained Yield Act of 1960 precludes the use of cash-flow information as the primary criterion in national forest land management decisionmaking.

Cash-flow analysis answers a limited and irrelevant question: Do annual timber receipts exceed annual timber sales costs? A more appropriate question would be: Do total benefits of the timber sale program exceed total costs through time? No cash-flow analysis has ever addressed this question.

As many of the present critics of the timber sale program remind us, timber harvest can impact on other forest resources. Producing or protecting other benefits and resources costs money. Charging these costs to the timber account has the effect of overstating timber costs while understating nontimber costs.

Identifying and allocating these costs is a difficult and time consuming task which requires some knowledge of the particulars of each timber sale. None of the recent cash-flow analyses has attempted any kind of cost analysis. The results are, therefore, biased, since the timber account was charged with costs which should properly be charged elsewhere.

In the industry's view, the issue of below-cost sales is, as Mr. Reid has earlier indicated, still primarily an accounting problem. The studies described do not properly allocate cost. Therefore, they overstate the costs that are compared to revenues from timber sales. However, these studies do highlight the problem inherent in the Forest Service's present method of cost accounting, and that is the extent of their contribution to the public dialog.

As you know, Mr. Chairman, the Forest Service is evaluating a better cost accounting system. Until this effort produces the information necessary to derive a better and more complete picture of the total costs and benefits, it is at best premature to attempt to address questions such as the timber harvest levels and allocation of unroaded lands. The industry urges this subcommittee to continue its responsible step-by-step approach of careful oversight to assure that the Forest Service develops the analytical tools necessary to properly resolve this issue.

Thank you.

[The prepared statement of Mr. Sitts appears at the conclusion of the hearing.]

Mr. WHITLEY. As we did yesterday, we will hear from all members of a particular panel before we recognize members of the subcommittee for questions that they might have of members of the panel.

We will depart just a bit from the order of witnesses on our sheet, and at this time, I recognize Mr. James R. Craine, vice president of Information and Environment of the Western Timber Association of San Francisco, CA.

Mr. RASMUSSEN. Mr. Chairman, my name is Mark Rasmussen, and I will present Mr. Craine's testimony. He had a family emergency and could not make it at the last minute.

Mr. WHITLEY. Very good.

STATEMENT OF JAMES R. CRAINE, VICE PRESIDENT, INFORMATION AND ENVIRONMENT, WESTERN TIMBER ASSOCIATION, PRESENTED BY MARK RASMUSSEN, POLICY AND PROGRAMS ANALYST

Mr. RASMUSSEN. I am here today to talk about the relationship between forest planning and this below-cost timber sale issue. The Chief of the Forest Service has testified before this subcommittee and other committees at various times about this issue and indicated that the forest plans will address this issue and will provide the information which you need to see to understand and to deal with this issue. Today, I would like to take the opportunity to talk about what the forest planning process could do for this issue, and the usefulness of information likely to be gained, and what kind of information we think will come from the forest planning process.

As you know, the National Forest Management Act of 1976 requires each national forest to produce a forestwide management plan to guide management of that forest for 10 or 15 years. Underlying these planning requirements of NFMA and subsequent regulations and directions, are some fundamental principles which are directly applicable to this below-cost timber sale issue.

These principles are: that forest management activities, especially timber harvest, often affect other resources, both positively and negatively; nonmarket resources have values which must be considered in the decisionmaking process; local management issues and concerns about various resources must be balanced across the forest, and national and regional issues must be balanced with local issues; the Forest Service plays a role in local economies to some extent; and short-term management programs must be sensitive to long-term implications of how resources are managed.

We feel that these principles are also critical to gaining a clearer understanding about the profitability of the timber sale program. Total resource benefits through time should be compared to total resource costs through time. That kind of comparison is necessarily based upon the principles outlined above.

The forest planning process, then, offers an ideal opportunity for generating the information which is needed to properly understand and address this issue. Each national forest has developed a set of analytical tools designed to find the most efficient combination of management practices to meet a given set of objectives and to identify the nontimber impacts resulting from timber management. Local forest planning teams have developed the analytical capabilities and the analytical skills to look at a question and determine what kind of information can be generated to shed some light on any given issue.

The written testimony outlines several questions about below-cost timber sales which could be addressed within the context of the forest plans.

However, in spite of these opportunities for generating some useful information about the below-cost sale issue, this round of forest plans will probably not shed much light on the issue because the direction for dealing with below-cost timber sales issues in the forest plans has been delayed, and is, in some cases, ambiguous.

In response to a question raised by this subcommittee at the February 26, 1985, hearing, the Chief indicated that the Forest Service had not yet issued any national direction about how to deal specifically with the below-cost sales issue in the forest plans. That direction was finally issued April 24, 1985. By that time, however, 54 forests had released draft or final plans, and draft plans for some of the remaining 65 forests were in the final review process. The Chief also indicated that the Agency is not considering issuing any supplemental analyses pertaining to this issue for those plans which have been finalized. Basically those are the plans in region 2.

Last year, the Chief told the House Appropriations Committee that the Forest Service did not have a methodology for identifying those timber sale costs that could be compared to timber sale receipts. Congress responded to this by appropriating $400,000 for the Forest Service to develop that kind of accounting system. The planning direction issued by the Chief, however, seems to require the forests to determine how to undertake this difficult task without the benefits of this study.

Mr. Sitts' testimony emphasized that some kind of cost allocation scheme is important in order to gain a better understanding about how the timber sales look in terms of costs and revenues, but these allocations must be made in a consistent and systematic manner. Otherwise, the information from different forests cannot be compared and aggregated. Unfortunately, the planning direction does not provide a consistent framework for determining which costs should be charged against timber receipts.

The timber industry has been supportive of the national forest land management planning effort since its inception in the National Forest Management Act. We feel that the local forest planning teams could use established planning tools and processes to provide information critical to gaining a better understanding about this issue.

We are concerned, however, that, because the planning direction has been so long in coming and is so vague, the results are more likely to be confusing than helpful. Results from the plans will not be comparable to results from the accounting system study. We urge this subcommittee to view the below-cost sale information from this round of forest plans with some caution. Some plans will be better than others, but there will be no standardization.

We do think that this subcommittee will find, on the other hand, that the Forest Service timber sale accounting system study will yield some useful information. With this study, we believe that the Forest Service is on the road to a positive solution to the sales below-cost problem.

Thank you.

[The prepared statement of the Western Timber Association appears at the conclusion of the hearing.]

Mr. **WHITLEY**. Thank you, Mr. Rasmussen.

Our next witness will be Mr. Stephen A. Bennett, of Bennett Logging and Lumber Co., representing the Virginia Forestry Association of Covington, VA.

Mr. Bennett, we welcome you this morning. We would be glad to hear from you at this time.

STATEMENT OF STEPHEN A. BENNETT, BENNETT LOGGING & LUMBER CO., ON BEHALF OF THE VIRGINIA FORESTRY ASSOCIATION

Mr. **BENNETT**. Thank you.

My name is Steve Bennett. I operate two sawmills in western Virginia. Seventy-five percent of the logs harvested for these operations are done with my own crew. The Forest Service timber sale program provides 80 percent of our operating resource base. Presently, I have five timber sales under contract with the Forest Service.

I think I have some experience in this issue, because I bought some of the so-called below-cost timber sales on George Washington National Forest. I would like to talk about the below-cost issue from a southern point of view. What is done to resolve this issue in the West will likely impact us in the South.

Unlike the western national forests, most of the land in the national forests in the southeastern region has been previously privately owned. Private landowners had cut most of the timber for charcoal. The bare hillsides were used for farming, grazing, or left barren. The Government acquired the land with the forest and watershed protection as the main objective. Fires were controlled, erosion stopped, and the land has subsequently recovered from serious problems. No effort, however, was made to regenerate the existing tree cover into economically desirable stands. Many stands contain economically undesirable species such as striped maple or shagbark hickory.

Low valued sales on the southern national forests are often the result of the Forest Service attempting to make these economically undesirable stands more desirable. While this will make the future sales more profitable, the initial sale cannot be as economically attractive as some might like. Thus, I wish to emphasize that the land that we are trying to manage is basically productive and current cash-flow problems result, not from trying to manage unproductive land, but from attempting to correct past land use patterns.

Another major difference is the roading issue. Much of the criticism of the western timber sales comes from those who are trying to keep large tracts of unroaded lands from becoming roaded. This is not the situation in the South. There are few large tracts of unroaded land left. People have lived on these lands for many years. Old roads and wagon trails are quite common.

The White Oak Flats timber sale which I recently purchased is a good example of past management decisions that are reaping present rewards, and if you would please note, between pages 5 and 6 of my written statement for the record has a graph. The White Oak Flats area is comprised of six compartments of the George Washington National Forest totaling 6,215 acres. The Forest Service management plan for the area is to manage it for multiple use.

In November 1977, the first timber sale was sold in the area, with 177 acres being harvested and 3.39 miles of specified road construction included in the sale package. Although the cash value received was not enough to cover the cost of preparing the sale, the Forest Service's biggest gain was the construction of a well-designed road to be used for future management, including fire protection, and by hikers, campers, hunters, birdwatchers, et cetera.

On April 29, 1985, a little over 4 weeks ago, I was the highest bidder on the second White Oak Flats timber sale. This sale included 261 acres of timber to be harvested and 3.2 miles of specified road construction. The value of the timber sold in this sale had increased 297 percent over the previous sale 8 years earlier. Although the return to the Forest Service in cash had increased considerably over the previous sale, it is doubtful the amount was enough to cover the total preparation cost. Again, the largest gain to the Forest Service was their added access.

Upon completion of the 1985 timber sale, a total of 438 acres of the timber will have been harvested from the six compartments. This represents only 7 percent of the total area, leaving 5,777 acres remaining uncut. Main access to the area has, thus, been provided by only the first two timber sales. Using today's values, per acre value of what was sold less than 4 weeks ago, there is presently $2,066 million worth of timber now accessible for harvest. The remaining sales will thus undoubtedly be profitable.

Moreover, hunter access is no longer limited to owners of four-wheel drive vehicles or people capable of making a 10-mile round trip hike.

In this area, from 1977 to 1984, 75 individual permit firewood sales have been sold on a bid basis. Cash receipts paid to the Forest Service from these sales from 1977 to 1984 have been in excess of $15,000. It should be noted that neither timber sale will get credit for this revenue, but there is definitely a direct result from the road construction of the first timber sale.

In addition, upon completion of the 1977 timber sale, the cutover areas were opened to the public for free firewood gathering. One Forest Service employee noted 76 pickup trucks at one time in this area gathering free firewood.

All of this is from an area that, prior to 1977, was inaccessible. Gentlemen, this is not poor forest management. The preceding example is not a projection from somebody's forest plan. It is an example of future planning becoming a happy reality.

To me, the most impressive benefit from such timber sales is their beneficial effect on our local economy. Only 15 cents of every dollar remains in our local economy from businesses such as gas stations, grocery stores, clothing stores, and tire shops.

Based upon the current market value, I can expect to receive in excess of $500,000 from the delivered products from this White Oak Flats timber sale. This is money that comes back to us in Virginia from furniture factories in North Carolina, South Carolina, Tennessee, Pennsylvania, West Virginia, Kentucky, and Maine for the lumber from our sawmill in Alleghany County. We then put this money back into the local economy in the form of payrolls, repairs, machinery purchases, fuel purchases, and other purchases.

If you use that theory, the White Oak Flats timber sale will do as much for our local economy as $3.4 million from other types of business receipts. Forest products are just about the only commodity we can start with as a raw product, manufacture with local labor, deliver outside our community, and sell to bring back money to be put into our local economy.

When all the benefits of a timber sale are considered, the total value to a community can easily be seen. If the Forest Service is forced to make a shortsighted cash-flow approach to forest management, it would be a tremendous mistake. The total of the present and future benefits from timber sales far outweigh their cost of preparation.

Thank you.

[The prepared statement of Mr. Bennett appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Bennett.

We have a rollcall in progress on the House floor. We will recess for about 20 minutes. We ask you gentlemen to remain if you will. I am sure there will be some questions for Mr. Sitts and Mr. Bennett. Inasmuch as we had witnesses yesterday who addressed some of the specific areas within the Appalachian forest.

The subcommittee will be in recess for about 20 minutes.

[Recess taken.]

Mr. WHITLEY. The Subcommittee on Forests, Family Farms, and Energy will reconvene its hearing at this time.

I want to recognize the ranking member of the subcommittee, the ranking Democratic member and former chairman of the full committee, the gentleman from Washington, Mr. Foley.

Mr. FOLEY. Thank you, Mr. Chairman.

I take great pleasure in introducing the last member of the panel to testify, Mr. Richard Wilhite of Clarkston, WA. He is the current president of the Northwest Pine Association, a graduate in forest management of Colorado State University, a resident of Clarkston, WA and a supervisor for the Guy-Bennett Lumber Co. there.

The Northwest Pine Association is an extremely important association of foresters and forestry companies with principal focus on eastern Washington and eastern Oregon, although it includes members who have operations in Idaho and Montana as well. I am very pleased to introduce Dick Wilhite to the subcommittee.

Mr. WHITLEY. Thank you, Mr. Foley.

Mr. Wilhite, we welcome you to our hearing today, and we look forward to your testimony.

STATEMENT OF RICHARD WILHITE, MANAGER, LOGGING AND TIMBER, GUY-BENNETT LUMBER CO., ON BEHALF OF NORTHWEST PINE ASSOCIATION

Mr. WILHITE. Thank you, Mr. Chairman, and thank you, Mr. Foley. However, you took away the first part of my oral testimony.

Mr. FOLEY. You can say it again; that is all right.

Mr. WILHITE. All right. I am Richard Wilhite, the logging and timber manager for Guy-Bennett Lumber Co. in Clarkston, WA. I am also the president of Northwest Pine Association in Spokane, WA.

The other speakers have discussed and will discuss the cost side of the below-cost sales equation. I would like to take a few minutes and talk about the revenue side of this equation and discuss the role that the market for wood products plays in this issue.

Federal timber, as you know, is sold as stumpage through an auction process. The fact that stumpage is bid on the open market through auction would seem to indicate that stumpage is sold at market value. The critics that claim that the sale of Federal timber constitutes a subsidy to the forest products industry don't seem to recognize this fact that when you sell something on the open market at market value, the timber is going for the highest price that the market will bear.

These bids that the purchasers make on the Forest Service timber are based on the costs of cutting, transporting, and milling this timber. Another factor in the bid that a purchaser submits is the purchaser's estimate of the prices he will receive for the finished products. Thus, the market for Federal timber is directly related to the prices for solid wood products.

About 60 percent of solid wood production has been and is used in new construction. Until recently, housing starts have been successfully used as a predictor for lumber prices. Figure 1 in my written statement shows that when housing starts fell in 1980, lumber prices fell dramatically as well. The graph indicates that while the housing market began to recover from the recession in mid-1982, lumber prices have not yet recovered.

Depressed lumber prices are due to two main factors. The first factor is increased United States capacity, and the second factor is increased Canadian imports. As a result of investments in the late 1970's, output per employee hour in U.S. mills increased at an average annual rate of 4.1 percent between 1978 and 1983. This increase is 2 points higher than the manufacturing sector as a whole.

Despite these increases in domestic productivity, the Canadian forest industry has increased its share of the U.S. market. Today, almost 31 percent of the lumber consumed in the United States comes from Canada. In 1975, this figure was 19 percent.

My purpose today is not to discuss the import problem. Rather, it is to demonstrate that current prices are depressed, that the timber profitability issue, for the Forest Service or any other landowner, is tied directly to the condition of the wood products market.

Attached to my testimony is a table which shows how Forest Service timber sale receipts have changed through time. Bids for national forest timber took a substantial fall in 1982. This was 2 years after lumber prices fell.

For reasons already outlined and which will be gone into further in later testimony, it is difficult to find a proper cost figure to compare with these revenues to examine how much timber is actually sold below cost. Thus, we are not, at this time, advocating such a comparison. However, even without generally agreed upon figures, it seems common sense that sales must have been more profitable in the past during higher markets than they are at present.

In order to obtain volume to continue operating and pay fixed expenses, many purchasers of Forest Service timber are bidding out their profit margin. They are increasing their bids and leaving only enough money to cover their fixed and, in some cases, their variable costs by the sale of final products. We believe and we know that this situation cannot last.

The current depression in lumber prices is due, in part, to overcapacity. It is reasonable to believe that some portion of the domestic overcapacity will disappear as mill owners begin to confront sustained financial losses. Less efficient mills are likely to disappear. We also believe some resolution to the Canadian import problem will be forthcoming.

Furthermore, the wood products market will continue to enjoy high demand. Lumber consumption reached an alltime high in 1984. Panel consumption was at near record levels. The Forest Service RPA assessment supplement projects a 60 percent increase in demand by the year 2030.

As overcapacity begins to disappear and demand remains strong, final product prices will rise so that stumpage prices will increase to the point where the profitability of most Federal timber sales, by whatever measure, will no longer be an issue.

The subcommittee should reflect on the nature of commodity markets before contemplating any major changes to the Forest Service's timber sale program. The timber commodity market is volatile. In the face of tight markets, my company and many others have made investments to make our operations more cost efficient. We commend the Forest Service for its similar efforts and urge the agency to continue in this direction. We feel that in order to be competitive, we must continue to operate, even if we are sustaining short-term losses. Like farmers, we must continue to produce when prices are low if only to cover fixed costs.

We look at the Forest Service as a partner in this commodity market. The Forest Service manages about 60 percent of the standing softwood timber in the Nation. It is a much higher percentage out West. We look forward to the day when the short-term profits are more obvious to both the participants in this commodity market as well as to critical reviewers of the Federal timber sales policy.

Thank you.

[The prepared statement of Mr. Wilhite appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. Wilhite.

I have a couple of questions on which I would like to elicit a response from anyone and possibly everyone on the panel who might wish to address it.

Two or three of you at least have mentioned that the Forest Service, in addition to developing an accounting system that would more appropriately evaluate all the costs and all the benefits of timber sales, should move toward reducing cost. The Grace Commission had a couple of proposals for reducing the cost on timber sales. One of them was to go to lump-sum sales and the other was to completely revise the appraisal system. Do any of you care to comment on those?

Mr. **Reid**. Mr. Chairman, we know the Forest Service is itself looking at some of those items. We haven't seen anything in detail from them we could make any substantive comment on.

Some of the later witnesses will get into substantial detail about some of the cost cutting projects that are going on, both in the West and all around the country. If anyone else has some comments they would like to make on some of the details of your question——

Mr. **Whitley**. Another question, and I would direct this one more to Mr. Sitts and Mr. Bennett, our witnesses yesterday who specifically testified about national forests such as the Washington-Jefferson Forest in Virginia and the Pisgah and Nantahala in North Carolina suggested that no matter what sort of criteria you use, there is no such thing as a timber sale in those forests that would recover the cost. They recommended that there be no additional roads built in those forests, as I recall the substance of their testimony, and that we limit future timber sales to no more than the existing levels. In the case of North Carolina, the Nantahala or Pisgah, they suggested the only justification for the continuation of any sales was the impact on the local economy.

I would invite Mr. Sitts and Mr. Bennett to comment on that.

Mr. **Sitts**. Mr. Chairman, let me address that first. As I said in my statement, in western North Carolina in the westernmost part of the State, 50 percent of the commercial forest land is publicly owned. In the western 24 counties, 25 percent of the commercial or available forest land is publicly owned land.

Forest Service lands are very important to our industry in western North Carolina. The Forest Service has completed a recent study that shows that there are 7,200 permanent full-time jobs created by the sale of national forest timber in western North Carolina. In my estimation, there is at least 90 percent of our national forest lands in western North Carolina that are suitable for timber harvest. We harvest private lands every day that are comparable to Forest Service lands, and we do it economically. The Forest Service could do it also.

Mr. Whitley. Mr. Bennett.

Mr. Bennett. We have a one sawmill sitting in the Jefferson National Forest and one in the George Washington. Both are running today as hard as they can run. I also know of three other sawmills pretty close to the two that I have.

The timber is there, and it can be harvested at a profit for the Forest Service and the people who go after it. It is definitely there.

Mr. Whitley. How would you arrive at whether or not this is a profit? This is what we are really all about here, is what is a profitable timber sale in this particular area.

Mr. Bennett. You should be able to get—in a lot of our areas, access is a problem. By the time you make your second or maybe third cut into an area, you should be making a good clean profit on your timber sale. We do have to use some of the timber to get some of the initial roads started into these areas, but I would say by the second cut into an area, you should be able to make a profit, no later than third. You are talking about maybe 20 or 30 years.

Mr. Whitley. Thank you.

Mr. Olin. Will the chairman yield on that same question so I can follow it up with Mr. Bennett?

You gave a very good justification in your talk of where you might justify having a below-cost sale the first time you entered an area. Do you think that the Forest Service has at its access or could have the necessary methods and a basis for forecasting subsequent sales so that at the time of the first sale, they could demonstrate to the public or anybody else what the lifetime benefit of the initial road construction was going to be? Is that a feasible thing to do?

Mr. Bennett. I have to admit that is a good example. You will probably find that some are going to be worse. If you look hard enough, you might find some that are better.

The reason I used this one, this was the first specified road construction tied to a timber sale ever built in the James River district and I think only the second in the George Washington National Forest in 1977. This is the first road ever constructed. This is when the whole program started. Now, it is 1985, and you are just now starting back the second time.

As long as the program has been going, it is just now getting to the point where it is going to start to show a return.

Mr. Olin. Did you say it is just now getting to that point, or will never?

Mr. Bennett. This is the first road we have ever built one time and come back and used for the second time into an area.

Mr. Olin. Thank you.

Thank you, Mr. Chairman. While I have the floor, would you mind if I say something about Mr. Bennett?

Mr. Whitley. By all means.

Mr. Olin. If no one objects, Mr. Bennett happens to be one of my constituents, and I would like to introduce him to all of you. As you know, he is a logger and a lumberman. Beyond that, he comes from a family of very effective farmers. His father runs a dairy farm that has the highest production average per cow in the State of Virginia. He was just last year declared the dairy farmer of the year of the State. He operates a very scientifically controlled dairy business, and he is most effective.

Mr. WHITLEY. He knows something about cost effectiveness, then, does he, Mr. Olin?

Mr. OLIN. He knows quite a bit about cost effectiveness.

Mr. Bennett has been very helpful to me in learning about the forest and trying to figure out what is the best way to get a good balance of the use of resources. He has just recently introduced cable logging into the area. To the surprise of some of the people who were very critical, he took me over a site where he had timbered off a good heavy timber on about a 55 degree slope using cable methods. There wasn't a bit of erosion. You couldn't find a spoonful of silt in the stream at the bottom of the hill, and there wasn't a mark on the hill outside of the road at the top that he used to gather the timber. I thought that was a contribution that may—it is nothing new out West but it is new in our neck of the woods and very good.

I say that he is one of the more responsible businessmen, and his public interest in coming here today I think is very commendable. I hope that by working with him we are going to find some answers to some of the controversy that surrounds this subject in our area.

I am very pleased to have you here today, Steve.

Mr. BENNETT. I thank you, and I gladly welcome the opportunity to work with you. That is our whole problem. We have been so busy doing our own thing that the general public does not understand what we are doing in the forest, and we have created our own problem. We are going to have to get into the public education of proper forest management.

Mr. WHITLEY. Thank you, Mr. Olin.

Mr. Marlenee.

Mr. MARLENEE. Thank you, Mr. Chairman.

I would like to welcome the whole panel here this morning. I do know Mr. Reid. He is not a constituent of mine, but he is from Montana, and out there are two Congressmen and two Senators, so we usually represent everybody in the whole State.

Mr. Reid, I questioned one of the environmental witnesses about where he was from and how long he had been there and what he supported. In fairness, I am going to do the same thing to you.

How long have you been in the State of Montana or in northern forest regions?

Mr. REID. I have been in Montana now for about a year and a half. Prior to that, I spent 11 years in California working for the industry. Prior to that, I was 12 years in Idaho where I started my career with the Idaho State Land Department and did a short stint with the university as well.

Mr. MARLENEE. How long have you been associated with Forest Products, 12 years?

Mr. REID. It will be almost 13 years now.

Mr. MARLENEE. During that period of time, Mr. Reid, there have probably been numerous forest plans put forward before the Congress. Have you commented on most of those?

Mr. REID. Yes; in fact, that was my principal area of work with the association in California just before I left to return here. Since I have been here, we have had opportunity to comment on 12 of the 13 forest plans or we are getting prepared to comment on that number in region 1.

Mr. **Marlenee**. Throughout that period, of the forest plans that you have commented on, have you ever supported wilderness or your association supported wilderness?

Mr. **Reid**. Oh, yes, yes, quite frequently. In fact, when you look at the late Montana Wilderness bill from last year, we supported wilderness in the Scotchman's Peak area and part of the Hoodoo area. We took a trip in there last year. Our folks thought it would make a very good wilderness area—the part we looked at. Part of the Clearwater Montour proposal that was agreed to by some folks, we support the Forest Service recommendation on the Big Hole, and the list goes on. We did the same thing when I was in California.

Mr. **Marlenee**. In other words, you are supporting a multiple-use concept?

Mr. **Reid**. Most definitely.

Mr. **Marlenee**. Roadless areas and wilderness areas and recreational areas and timber harvesting, reforestation?

Mr. **Reid**. Most definitely. I think you will find that in our comments on the forest plans as they come along.

Mr. **Marlenee**. I see. That is interesting in comparison to the other gentleman who has never supported a timber sale in all of the time he had been in the area and commenting on the forests.

Let me proceed further, then. Would you characterize the forest plans as put forth by the professional managers of the Forest Service as good, generally good, poor, contributing to a balance?

Mr. **Reid**. It is hard to make a generalization, and you always look at it from your own perspective, I think. They do, in fact, show a broad balance across the spectrum. We have some problems with how that balance comes down, and we make specific suggestions to the Forest Service, again, within the context of maintaining that balance along the way.

Mr. **Marlenee**. I realize that might put you on the spot a little bit, representing the forest industry and having to deal with the Forest Service.

Yesterday, we heard from some of the witnesses that Forest Service lands were lands that nobody wanted and that the only lands left uncut are comprised of rock and waste, unproductive forests. Generally, I think the inference was that what timber we have out there couldn't be developed to a sustained yield concept. Would you care to comment on that?

Mr. **Reid**. I feel that somebody who makes that kind of a statement is trying to rewrite history. First of all, this term, the lands nobody wanted, somebody coined that as a title of a book or a paper and they really are applying it to the lands which are now being managed by the BLM which were, in fact, leftover lands. The national forests, of course, evolved from the forest preserves which were set up back in the 1890's which, according to the Organic Act, were established to provide timber and water for the use and necessity of the people of the country.

Mr. **Marlenee**. And what year was that, sir?

Mr. **Reid**. The 1890's is when the forest preserves were set up. The Organic Act of the Forest Service was in 1897.

Mr. **Marlenee**. I think that is an important point.

I see my time has expired, Mr. Chairman, but I do wish to reserve a little bit of the time at the end. Thank you.

Mr. WHITLEY. Thank you.

Mr. Smith.

Mr. SMITH. Thank you, Mr. Chairman.

Mr. Wilhite, you and your panel have talked a lot about cost allocation and pointing out that we cannot identify values to all forest uses and, therefore, nothing should be done until we can find accurate costs for the various uses of the forests. I am wondering, having spent 5 years on the Land Law Review Commission and having been a part of an abortive effort, really, to try to identify resource allocations; I would be interested to know what you think about revisiting the question of resource allocation. In other words, I would like yours views on identifying the forests for various purposes?

Mr. WILHITE. Are you asking me how I feel about the current forest planning process or——

Mr. SMITH. As you know, the Public Land Law Review Commission attempted to identify and separate within forest areas for timber cutting, areas for recreation. There has always been a convoluted effort in our forest plan to try to be attentive to all the multiple uses. I am wondering if you think that the question ought to be revisited about trying to identify resource areas within a forest that allocate resources rather than going after the cost allocation?

Mr. WILHITE. That would seem to me to be the purpose of the current forest plans. However, from my viewpoint and my viewpoint personally, most uses, multiple uses, of forest lands are not mutually exclusive. There are very few uses that would totally exclude timber harvest and timber harvest excludes virtually no other multiple uses except for roadless area recreation. But I don't feel competent to comment on your question at this point in time.

Mr. SMITH. I guess the point is wilderness areas exclude certain uses.

Mr. WILHITE. You are asking me should we go back and look at some of the present wilderness areas?

Mr. SMITH. No, I didn't mean that. No, I don't want to bear that one.

The reverse position of the wilderness area which excludes use would be another area which allows only certain uses.

Mr. WILHITE. Could I defer to Mr. Rasmussen? He is quite familiar with that.

Mr. RASMUSSEN. Mr. Smith, I think there is an attempt in the Alaska Native Interest Lands Act where lands were allocated to wilderness and less productive lands were allocated to timber management. There is still some controversy about that decision. There is still apparently some controversy about how we should manage those lands which were allocated to timber management at that time. I think the subcommittee would want to think real hard about taking that kind of approach to trying to resolve the issue.

Mr. SMITH. Mr. Bennett, I can't help but note, having been around the livestock business all my life, what good judgment you used when you left the dairy industry and got into the lumber business. However, from your knowledge of the George Washington National Forest, I want to ask you why you are losing about one-third of the annual timber growth in that forest to mortality each year? Could you explain why you are suffering these huge losses?

Mr. BENNETT. I think it is because such a majority of our land is getting to that age. The Forest Service management plan says that the majority of our forest is in the 80-year-old-plus category. I have put together some pictures, a collection of pictures, of our country around 1900. It was just about all totally wiped out. It was cut, burned, and burned again. It was just about clearcut then, and it is just about all back to the 80- to 90-year-old range now. It is getting to the mortality; it is that time.

Mr. SMITH. That seems like a horrible waste of a product. Why are we allowing one-third of the annual growth to be destroyed one way or the other? It seems like a horrible mismanagement.

Mr. BENNETT. I agree with you totally. Maybe it is just my conservative upbringing, but I don't see any reason to waste one tree of it if somebody somewhere can get something out of it. It just doesn't make sense.

Mr. SMITH. How would the management plan be changed so that we wouldn't waste this timber?

Mr. BENNETT. Speeded up. Speed up your timber harvesting for the next 8, 10, maybe 15 or 20 years. What it is, there is a big glut of timber at this age and very little between there and zero years. You need to increase your cut maybe in the next 15 or 20 years to get it back in balance.

Mr. SMITH. Thank you.

Thank you, Mr. Chairman.

Mr. WHITLEY. Chairman de la Garza, do you have any questions or comments for this panel?

The CHAIRMAN. No, thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Schuette.

Mr. SCHUETTE. Thank you, Mr. Chairman.

Gentlemen, I enjoyed your testimony and your prepared statements.

Mr. Sitts, you, on page 8, set forth a suggested allocation of costs if a cash-flow analysis is to be made in assessment of a timber sale. Where would environmental costs be inserted within those various costs that you set forth in your statement, sir?

Mr. SITTS. That is a very difficult question to answer, Mr. Schuette. I would prefer to defer that to Mr. Rasmussen. He has done several analyses on the cost and cash-flow situation.

Mr. SCHUETTE. Thank you.

Mr. RASMUSSEN. The idea of cost allocation embraces the concept that if you want to talk about what are the costs and benefits of timber you need to separate out what costs are incurred in the timber sale process to protect or produce other resources. For example, many times road standards are increased above the standards necessary for hauling out the timber, and that results in increased costs. You need to look and see why those costs are higher and then take that incremental portion of cost and allocate it to whatever reason that caused it. If it was for recreation, you would say recreation should cover that cost.

Mr. SCHUETTE. Do you have any opinion as to what costs are associated with taking proper environmental safeguards which we should maintain in a proper balanced way involved in any timber sale?

Mr. RASMUSSEN. I just saw a study the other day by a fellow at the Intermountain Research Station named Benson, and he looked at, I think, 185 timber sales in Montana. He felt that purchasers were reducing their bids by an average of $37 per board foot to cover the cost of provisions designed to protect or produce nontimber resources. That is the best information I know of at this time.

Mr. SCHUETTE. Can you fit that into a percentage of costs involved in the sale, or is that difficult to do?

Mr. RASMUSSEN. Well, if you look at the Forest Service cost, the average Forest Service cost per sale in preparation, administration, and civil cultural exam in region 1, which is where this study was, is about $20 per $1,000. The point here is that purchasers are reducing their bids an average of $37 per $1,000 to cover these costs. The Forest Service is suspending $20 per $1,000 to offer these sales. It would seem you could solve a good portion of the problem by allocating those costs.

Mr. SCHUETTE. Thank you.

Mr. Reid, if I may, we had much testimony yesterday about statements to the effect that there is a surplus of timber products on the market today and, hence, plans to have increased harvests are uneconomic from a supply and demand viewpoint. What is your reaction to that, sir, as you assess the needs and the demands for wood products facing the timber industry?

Mr. REID. That is a very short-term way of looking at things, to begin with. We have gone through one of the toughest times in the industry in terms of prices and this sort of thing. As Mr. Wilhite alluded to, it is very market sensitive. Looking at the long-range projections, everyone seems to agree that there will be increased demand. If we get the balance of trade situation taken care of, particularly with the Canadian import problem, that will help.

There are a lot of things that are going on that make this whole thing a very complicated business. As you mentioned, timber is a commodity business. The Forest Service and the Government is in this business right along with the industry and needs to react to it the same way that the rest of us do in terms of planning. The long-range projection suggests that this is not the time to be planning to cut back or reduce timber harvests.

Mr. SCHUETTE. Is it fair to say in your opinion as you project and forecast in terms of demand internationally and domestically that the projected uses and needs set forth within projected sales to be conducted through the Forest Service are appropriate given your interpretation of the world demand for wood products?

Mr. REID. We look principally at the RPA program, the assessment that accompanies the RPA program, for those kinds of projections. Of course, we evaluate them in light of some other things we read, but that is our principal source for that information, and that is what that suggests.

Mr. SCHUETTE. Thank you very much.

Mr. Chairman, thank you.

Mr. WHITLEY. Mr. Marlenee, I believe you wanted a little additional time?

Mr. MARLENEE. Please, Mr. Chairman.

Let's address the question of increased costs that come about as a result of good forest management, and I think most of us will concede that most of the practices required are good management and contribute either to a better environment or to a more aesthetically appealing forest or to game management. I am going to address this to all of the panel but more particularly to Mr. Reid.

Anymore, when we have a cut or a sale, we are not necessarily and usually do not have a sale that involves a large clearcut area, but that sale may involve a number of very small areas. So, instead of one large clearcut, you have, in one instance that was given to the committee, 80 small clearcuts or 80 small areas that are harvested, very small areas. Does that contribute to the increase in the cost of the sale?

Mr. REID. It certainly does, both from the Forest Service standpoint in preparing that sale and administering it and also from the operator's standpoint. That is a very costly way to operate. We do have sales in region 1 which are focusing to try to enhance wildlife, particularly big game, through that kind of a sale.

Mr. MARLENEE. Aesthetically, of course, when we have a—going on on the point of game management—when you have a sensitive area, the managers of the forest generally require you to circumvent that area with your roads so instead of a direct route from point A to B which is the shortest line, a direct short line, a direct straight line, you have to circumvent that area. Does that add additional cost?

Mr. REID. Yes; any of these things like that are. As you know, when the Forest Service sets up a sale, they have a wildlife biologist, landscape architect, hydrologist, archaeologist, all of these people review the sale package and influence the way that thing is put together. It varies, obviously, substantially from sale to sale.

Mr. MARLENEE. Can you give me—a hydrologist. Now, we are talking about clean water. Can you give me an example of where we are addressing the problem of clean water and sanitation? What example could you use that increases cost?

Mr. REID. There was a sale we were looking at, over on the Idaho panhandle, for us last summer where they were taking extra measures in the road construction to take a machine and pile these logging slashed from the right-of-way timber at the bottom of the cut slopes to act as a filter so that any water that ran off of that cut slope, any silt was filtered out in this strip. Now, that is going to cost more to have your machine reach out, pick up, and place this material rather than piling it or burning it as you might normally do. That is one example.

Mr. MARLENEE. All right. Now, we have addressed the hydrologist. We have addressed the aesthetics. We have addressed the game management which all add costs. Now, what about recreation in the management of these roads that are built? Does that contribute basically to below-cost timber sales?

Mr. REID. Someone earlier mentioned that the roads may be built to a higher standard to accommodate recreation. They do this mainly as a safety measure. If they know a road is going to be used as a major recreation road or they plan a campground later on, say, after the road is in, they will build it with straighter alignment and wider curves and this sort of thing. It is somewhat of a safety factor. This would increase the cost of that road over what you would need just to remove the timber.

Mr. **Marlenee**. All right. Now, someone on the panel said somewhere between $20 and $35 were costs attributable to all of these values that are good for management practices. Is that out of line?

Mr. **Rasmussen**. Mr. Marlenee, there are two factors to consider there. One is what are the costs that the purchaser will incur in order to comply with the provisions of the contract. That was the number I gave you, $37 per $1,000 on average. There was quite a wide range on that. The other cost to look at is what does it cost for the Forest Service to design timber sales which meet these standards and comply with NEPA. We don't have that. The Forest Service doesn't have any information as far as I know about what those costs are.

Mr. **Marlenee**. But anyway we, ourselves, have contributed greatly to the increased cost. Is that not correct? I am talking about we the Congress of the United States and the community that has said let us have a more aesthetic, game management, multiple management concept in our forests on our timber sales.

Mr. **Rasmussen**. Certainly, multiple-use management is not cost free, and we are not here today to tell you that the forests should not be managed for multiple uses. Our message today is that that does cost something. You don't get that for nothing.

Mr. **Marlenee**. Now, we see—and if I may, Mr. Chairman, I am coming home to one final point on this—we see a tremendous number of imports, a tremendous volume of imports from Canada. Is that not correct?

Mr. **Reid**. Yes.

Mr. **Marlenee**. How much are they underbidding us?

Mr. **Wilhite**. How much cheaper are they selling their lumber here?

Mr. **Marlenee**. That is correct.

Mr. **Wilhite**. They are not selling it any cheaper. They are selling it on the same market we are.

Mr. **Marlenee**. But my point is somebody is making a profit bringing it down from Canada and where is that coming from and how does that come about. Is it because of these additional costs we put on our own industry to some extent?

Mr. **Wilhite**. I can't address the Canadian industry and how they do business. They certainly are competitive with us. I don't think I can tell you where the competitive advantage lies.

Mr. **Marlenee**. Mr. Chairman, I think it would be interesting if we would look at what constraints are put on the Canadian industry and why it is that they can sell their logs up there quite a lot cheaper right off the forest. Perhaps they don't have all these requirements that we put on our own industry and then they are underbid or competition from Canada is causing great problems in unemployment and closure of our mills.

Mr. **Whitley**. Mr. Marlenee, as you may know, our ranking member here between us has recently been to Canada, and he has been looking into that. I am sure he is going to share with us a number of the things he found on that trip.

Mr. MARLENEE. Thank you, Mr. Chairman. I have no further questions.

Mr. WHITLEY. I have one final question for the panel. Yesterday, I guess it was the complete consensus of the witnesses that we had that the Forest Service either was not implementing at all or was not adequately implementing the provisions of subsection 6(k) of the National Forest Management Act. I would like to have you gentlemen comment on your opinion on that.

Mr. RASMUSSEN. Mr. Chairman, we intervened in a case which NRDC brought against, or the appeal which NRDC brought against the two plans they mentioned yesterday, and our testimony was focused on section 6(k). We feel, looking at section 6(k) and the legislative history, that the requirement to look at biological, physical, economic, and other pertinent factors does leave a lot of discretion to the Forest Service. We also noted in the record of the proceedings that Congress made a specific attempt to expand the definition of economic to include impacts on local communities. We think that is a very significant factor, because it is very hard to talk about the economic impacts of the timber sale without looking at the whole program. We tend to believe that the Forest Service is implementing section 6(k) as was proposed by Congress.

Mr. WHITLEY. Thank you, Mr. Rasmussen.

Mr. REID. Excuse me, Mr. Chairman. Attached to my statement are detailed answers to the questions that were posed in the charter, and there is substantial analysis of this question in that. In addition, recently one of the first rulings on this question by the Ninth Circuit Court of Appeals essentially said that the value of timber did not necessarily have to cover the cost of road construction, moving to get this whole question resolved.

Mr. WHITLEY. Thank you. That concludes the testimony of this———

Mr. MARLENEE. Mr. Chairman, I do have one more question.

Mr. WHITLEY. Yes.

Mr. MARLENEE. I thank the chairman. I would like to have the panel, or particularly Mr. Reid in the northern region, where we are impacted dramatically by Canadian imports submit to us as best you can, Mr. Reid, a list of those things that put us at a competitive disadvantage as compared to the Canadian timber industry, if you would, and I ask unanimous consent that may be submitted to the record.

Mr. WHITLEY. Without objection, it will be accepted.

Mr. REID. We will do that, Mr. Marlenee.

Mr. WHITLEY. We thank the members of this panel.

Our next panel will now come forward, consisting of Mr. Richard Malburg of Malburg Logging, representing the Michigan Association of Timbermen; Mr. Greg McGuire, logging engineer and chairman of the Forest Industries Region 6 Road Subcommittee; Mr. Pete Himmel, resident manager, Pope & Talbot, Inc., Spearfish, SD, accompanied by Mr. Lloyd Stahl; Mr. Michael C. Welling, resource manager, Idaho Forest Industries; and Mr. James S. Riley, executive director of the Intermountain Forestry Services of Ogden, UT.

The Chair would again make the point that we will accept for the record the entire written statement and any attachments presented by each witness. In the interest of time and in order to afford members of the subcommittee an opportunity for questions, we would like to ask that each of you, in your oral presentation, summarize your statement in the timeframe of about 5 minutes.

We welcome at this time Mr. Richard Malburg of Malburg Logging, representing the Michigan Association of Timbermen.

STATEMENT OF RICHARD MALBURG, MALBURG LOGGING CO., ON BEHALF OF THE MICHIGAN ASSOCIATION OF TIMBERMEN

Mr. MALBURG. Thank you, Mr. Chairman.

I am Richard Malburg, from the Hart area.

Michigan forests are as diverse as any in the Nation. They have more tree species, more wildlife species, and more different types of soils than most States. This unique diversity creates a wildlife variety and many forest uses that provide for many leisure hours and economic development opportunities for our State and the entire Midwest.

Our national forests have been managed under the multiple-use principles that have produced timber products, habitat for deer, wild turkey, endangered species such as the Kirtland's Warbler, development of campsites, primitive camping, and scenic river areas.

The national forests in Michigan are vastly different from the forests in the West. A large portion of the western national forests are in the first entry stage of management. In the Forest Service region 1, only 50 percent of the commercial forest land is roaded. Michigan's forests, on the other hand, have virtually all been harvested at least once in the past 100 years. It is because Michigan's timberlands were inadequately managed in the past that we now must incur the costs of restoring the forests to a healthy state.

Thus, much of the timber harvesting in Michigan is a primary tool for regeneration of healthier stands and creating openings and food for wildlife. While there have been many disputes about the benefits of timber harvesting for wildlife in other areas, our State Department of Natural Resources, Wildlife Division, supports timber management as a means of creating wildlife openings and maintaining habitat diversity.

Despite the short-term costs the Forest Service now incurs when it prepares its timber sale, the long-term benefits from the forests will greatly exceed the costs. For example, the preferred alternative in the draft national forest plan for the Huron-Manistee National Forest shows that the present net value of total resource benefits will exceed costs by $907 million. Over 20 percent of those benefits are revenues generated directly from the timber sale program. The plan shows that, given the Forest Service's current accounting system, timber can be grown profitably in a way that meets multiple-use requirements on this national forest.

This is not to say that the Forest Service costs are not high or their requirements complex. I will submit for the record a similar U.S. Forest Service timber sale and a Michigan Management Division timber sale that I have purchased. The Forest Service sale has 124 pages. The State sale has a total of six pages. The value of the State sale was over $46,000. The Forest Service sale had a value of under $19,000.

Michigan has 17.7 million acres of commercial forests, fifth in the United States. The national forests make up 14 percent of this total. I would hope that expanding, not limiting, the multiple use of national forests would be the objective of this subcommittee and the Congress overall. The citizens of present and future generations will be best served under multiple-use practices. Those of us who harvest timber for a living love the forest. We want to see it produce and regrow.

The Huron-Manistee National Forest in which I work provides both a playground and a source of employment and has served us very well for many generations.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Malburg appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Malburg.

Our next witness is Mr. Greg McGuire, chairman of Forest Service Industries Region 6 Road Subcommittee in the State of Washington. Mr. McGuire, we welcome you, sir, and look forward to your statement.

STATEMENT OF GREG McGUIRE, MANAGER, DISTRICT TIMBERLANDS, BOISE CASCADE CORP., ON BEHALF OF THE FOREST INDUSTRIES REGION 6 ROADS SUBCOMMITTEE

Mr. MCGUIRE. Thank you, Mr. Chairman. Good morning, Mr. Chairman, and members of the subcommittee.

My name is Greg McGuire and I am a timberlands manager for Boise Cascade and also chairman of the region 6 subcommittee. As chairman of this subcommittee, I have become familiar with one aspect of this issue, road costs. It has become increasingly obvious to me that the Forest Service's multiple-use mandate is not cost free. My testimony today will focus on why and how the multiple-use mandate makes the management of our national forests more expensive.

The Forest Service timber sale preparation process encompasses a series of activities that begin with the identification of a project area and end with the award of a timber sale contract. These activities must pass through seven critical points called gates, each requiring specific outputs before proceeding to the next gate.

As the process begins, the feasibility of a sale is measured by review of forest land management plan, watershed analyses, soil and geologic data, visual resource management mapping, archaeological reconnaissance findings, transportation analyses, logging systems capabilities, and the list goes on and on. All of this is just to get through the first gate in the sale preparation process.

The second gate is the sale area design process. Detailed, site-specific information obtained by staff specialists provides resource analyses necessary to develop and prepare a commercial timber sale. After the outputs, costs, and impacts for several alternatives are evaluated, an environmental assessment, a document required by NEPA, is prepared. Following these steps, the final sale package, including an appraisal for the timber sale, is prepared.

Obviously, this is not a simple process. It includes input from a large number of Forest Service specialists needed to meet the requirements of the Multiple-Use Sustained Yield Act and NEPA.

Not only does this multiple-use mandate increase the Forest Service internal costs, but it also results in timber sales which are less valuable to both the purchaser and the Government. The financial value of a timber sale is reduced as costly provisions for protecting or producing nontimber resources are incorporated in the design of the timber sale.

Figure 1 of my statement shows the road and harvest units associated with a typical Forest Service timber sale. Notice that the harvest units are located some distance apart. Generally, the Forest Service disperses harvest units in this fashion in order to minimize the impacts on wildlife or to provide recreation access to the area. The whole road can be used for subsequent timber sales. However, the extra road mileage will make the cost of the timber in the first sale higher and, thus, returns to the Treasury lower.

The multiple-use mandate requires that the road be available for recreationists, hunters, campers, and other forest users. In this context, the Forest Service often provides an elaborately designed, high standard, visually pleasing road. A road to access the timber and provide for land management functions would cost industry $10,000 to $30,000 per mile in our operating area. The same road built to Forest Service standards could cost upward of $80,000 per mile.

This high standard, expensive road system not only reduces the value of the timber, but also requires substantial administrative expense. It takes a large engineering staff to write road specifications and contract language, survey and design the road locations, estimate costs, and finally to inspect for construction compliance.

Figure 1 also shows harvest units that are relatively small in size and require selection or shelterwood cuts instead of clearcuts. Selection and shelterwood systems may be useful in meeting some multiple-use objectives. However, they are certainly more expensive to operate.

In many cases, the timber sale contract specifies that a cable system be used on units which could be tractor logged. While this may be desirable from a multiple-use standpoint, it can increase costs by as much as 50 percent, thus reducing the amount a purchaser can bid on a sale.

I am a private timberlands manager, not a multiple-use expert. I am most certainly not against the multiple-use management of our national forests. However, it is clear that the Agency must consider the impacts of its management decisions on a broad array of resources. These considerations are not without cost.

Thank you, Mr. Chairman.

[The prepared statement of Mr. McGuire appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. McGuire.

Our next witness is Mr. Pete Himmel, the resident manager of Pope & Talbot, Inc., of South Dakota. Mr. Himmel, we look forward to your statement, sir, at this time.

STATEMENT OF PETE HIMMEL, RESIDENT MANAGER, POPE & TALBOT, INC., ON BEHALF OF BLACK HILLS FOREST RESOURCE ASSOCIATION, ACCOMPANIED BY LLOYD E. STAHL, EXECUTIVE DIRECTOR

Mr. HIMMEL. Good morning, Mr. Chairman, and members of the subcommittee.

As you have noted, my name is Pete Himmel. I am the president of the Black Hills Forest Resource Association as well as the resident manager of Pope & Talbot at Spearfish, SD. Accompanying me is Lloyd Stahl who is the executive director of our association.

I am testifying today because the Black Hills has come to be the forest that is typified by the below-cost timber sale. In addition, though, to accounting and other issues raised by my colleagues, there is much more that we believe could be done to improve any given timber sale economics.

It is absolutely vital that such efficiencies are addressed as part of this debate prior to allowing the Forest Service to sweep this problem under the rug by simply raising minimum rates or reaching a conclusion that forests like the Black Hills are inherent losers, thereby reducing harvest and management. Cash-flows in the Black Hills have been negative primarily because the Forest Service has historically offered timber for sale without any regard for economics.

In the crucial areas of utilization standards and silvicultural regimes, the agency has blindly adhered to past specifications that used up all potential cash-flow through high cost contract specifications or through capital improvements to the ground. These regimes and standards were established in the past. The only apparent concern most interested parties, including the Congress, had at that time was a certain end result be achieved for the acres that were to be harvested. No significant importance was placed upon sale economics. Silvicultural practices and other specifications which impacted purchasers were made more costly.

The typical silvicultural prescription cuts the sawtimber volume on the acres it harvests by about one-third. If the harvest density were increased, for instance, to one-half, significant savings could be expected from lower cost logging and less miles of road to achieve the same harvest level.

From a volume viewpoint, utilization standards were continually tightened. Yet, the cost benefit impacts of this tightening were ignored.

Inefficiency also results from the Forest Service's refusal to accept partial treatment of a tract when it cannot afford to do everything that it would like to do on the first entry.

As a result of these policies, the residual value appraisal system is adversely impacted, and potential bidding is restrained. Unrealistic utilization standards can actually cost the Government on both ends of the appraisal system. Forced utilization of the most marginal trees or parts of trees forces logging and manufacturing costs higher while lowering overall product values. The result is an inevitable downward spiral in cash-flow as product values decrease, costs increase, and ever more punitive sale requirements further detract from the next offering. Often, thousands of dollars are spent by the Forest Service to achieve questionable results valued at only a fraction of those costs.

Incredibly, purchasers often do bid to levels that should generate cash returns to the Treasury, but that cash-flow is diverted back to capital improvements on the ground via revised KV plans. The last paragraph of the district ranger's letter following page 17 of my testimony acknowledges this practice. A revised KV plan was developed as soon as the sale was competitively bid to an unexpected level. That new plan envisioned spending virtually all the new found cash-flow on items that were not even deemed necessary in the original KV plan, thus reducing potential returns to the Treasury to almost zero.

Many of these dollars are to be spent on nontimber benefits such as wildlife enhancement and range improvements. We have no quarrel with enhancement of these benefits, but the costs should not be deducted from timber receipts if the result will skew a decision as to whether such timber will be sold.

KV expenses are further aggravated because sale boundaries are usually drawn to include large areas that will not be harvested. This practice then allows the agency to spend KV money on those unharvested areas.

Our association is in the process of formulating proposals to the Forest Service regarding most of the areas that I have touched upon today. We believe that appraised values for Black Hills offerings could be typically raised by $30 to $40 per thousand board feet if our recommendations were adopted.

We believe such a plan could maintain or increase current harvest levels in an environmentally sound manner while continuing to manage the forest in a quality fashion. In short, we do not think the Black Hills would show a negative cash-flow if contract requirements and specifications are modified to be economically realistic.

Thank you.

[The prepared statement of Mr. Himmel appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. Himmel. You are accompanied by Mr. Lloyd Stahl of the Black Hills Resource Association. Would Mr. Stahl like to be heard?

Mr. **Stahl**. I don't have a statement at this time, sir. Thank you.

Mr. **Whitley**. Thank you.

Our next witness is Mr. Michael C. Welling, resource manager, Idaho Forest Industries, Inc. We would be glad to hear from you at this time, Mr. Welling.

STATEMENT OF MICHAEL C. WELLING, RESOURCE MANAGER, IDAHO FOREST INDUSTRIES, INC.

Mr. **Welling**. Thank you, Chairman Whitley.

I am Mike Welling, resource manager for Idaho Forest Industries, Inc., Coeur d'Alene. We also operate a mill in the Targhee National Forest in Representative Stallings' district that seems to become a center of controversy in the low-cost sale issue, and I would like to comment on that later.

You heard much discussion yesterday about costs on Forest Service sales as if these costs were cast in concrete. My purpose today is to show this subcommittee that this is not true and that the Forest Service has recognized that cost management is a serious issue and has actively been seeking ways to improve management efficiency.

Most of my discussion will center on region 1 and the Panhandle National Forest, as I am most familiar with their policies. I am optimistic that other forests have or will soon initiate similar efforts.

In the late 1970's, the lumber market was good. The Forest Service returns from these sales were very positive. Most Forest Service management efforts were directed to implementing multiple-use management with very little regard for cost.

Slash treatment and reforestation—we commonly refer to as KV—associated with timber sales are an excellent example. It was not uncommon for slash and KV collections to average $25 to $40 per thousand on a sale. On an average sale, this can be as much as $250,000 to $400,000.

When it became apparent that many sales were not selling because of the high costs of brush disposal and KV, the Forest Service in region 1 became very concerned. They asked industry for our perspective on how these costs could be reduced. The Panhandle National Forest became the pilot forest in region 1 and with the commitment of both parties, major improvements have been made. This was accomplished in two areas:

One, industry, rather than the Forest Service, began doing most of this work. Even though this presented more risk to the purchaser, the savings to the Government ranged from 50 to 200 percent on all projects.

Two, the Forest Service conducted a review of reforestation and slash treatment practices resulting in much more cost efficient proposals. Improved management in this area has been reflected by actual cost reductions of 30 to 50 percent.

These findings are now standard management practices on the Panhandle National Forest. We believe more steps can and will be taken, but at least a model is in place from which other forests can benefit. Overall, the changes made during the last 2 years demonstrate a cost savings of nearly $2.5 million on just the Panhandle National Forest. If these guidelines were extended to the rest of region 1, we would anticipate cost savings in excess of $10 million. We are told that the Forest Service is already moving in this direction.

The Forest Service also has recognized that the cost to prepare and administer timber sales could be much lower, and has initiated programs within region 1 which are designed to reduce these costs. Several proposals, such as sale-by-area in low-value species, standard taper on logs to lower scaling costs, and better coordination between field personnel are currently being considered and implemented.

Region 1 has set actual goals for each forest which reflect the magnitude of the cost savings potential. The table which is attached to my written statement summarizes these goals. In this table, the forest cost on a forest-by-forest basis varies quite a bit, but the basic bottom line is that during the next 4 years, within region 1, they are anticipating costs of over $5 per thousand.

Once these projected savings are realized, the reduced costs in region 1 will approach another $6.5 million or a reduction of 30 percent in the cost of preparing and administering timber sales.

Although these efforts are certainly commendable, we find that their target of over $12 per thousand for preparation and administration to be excessive. Most of the Forest Service costs are incurred in preparing environmental assessments and environmental impact statements. These are the result of the legislative actions that occurred in the last 15 years. These statements are required, but you must recognize that they are expensive. Furthermore, they are not essential for timber sale activities. They are necessary only for coordinating all measures under the Forest Service multiple-use mandate, which we support.

Besides reducing costs in preparation and administration, region 1 and the rest of the Forest Service has been actively reducing their personnel to further reduce overall costs. Since February 1982, the Forest Service nationwide has reduced the number of permanent employees by nearly 3,000. In region 1 during this same period, over 500 permanent positions have been eliminated. This amounted to 16 percent of the nationwide total. Only region 5 has a higher percentage of reduction.

The Panhandle National Forest has been very significant in reducing costs in this area. Not only does the Panhandle share of the reduction in region 1 represent over 20 percent of the total, but in the last 9 months alone, the Panhandle has reduced its engineering department from 91 employees down to 73. This is a 20 percent reduction in only the last 9 months. This has been in direct response to legislative and departmental concerns about engineering costs.

These are substantial figures in reducing costs. During this 3-year period, in region 1 alone, the savings to the Government must be between $20 and $25 million in salaries and benefits.

In summary, the Forest Service has recognized that, in order to be an effective land manager, it must become more cost efficient. The agency has taken major steps to reduce these costs and is committed by direction to reduce costs further.

If closer attention to cost control and these amounts in cost savings had been realized over the past few years, much of the controversy over financial returns from the Forest Service's timber sale program and sales below cost probably would not exist today.

The key to this program right now, though, is time. The Forest Service needs time to complete and evaluate all the cost savings measures which they have started. They also need time to revise the accounting system which we have discussed already today.

To be most helpful, you, the lawmakers, need to recognize that changes are in progress and you should insist that ongoing programs are carried out, new programs must be initiated, and cost goals established and properly met.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Welling appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you for a very fine statement, Mr. Welling. Our last scheduled witness on this panel is Mr. James Riley, the executive director of the Intermountain Forestry Services of Ogden, UT. We look forward to hearing from you at this time, Mr. Riley.

STATEMENT OF JAMES S. RILEY, EXECUTIVE DIRECTOR, INTERMOUNTAIN FORESTRY SERVICES

Mr. RILEY. Thank you, Mr. Chairman.

Intermountain Forestry Services is a trade association representing forest products firms in southern Idaho, Utah, Colorado, and Wyoming. My comments today are offered on behalf of Intermountain Forestry Services, the National Forest Products Association, and the other industry representatives on this panel. With the examples that have been illustrated by the previous nine speakers, I will attempt at this time to try to summarize our views generally and in three areas.

First, is that the Forest Service can, and should, immediately identify and implement procedures to reduce management costs and to improve the financial return of timber sale offerings.

In recent months, the Forest Service has conducted several internal reviews of the timber management programs with the objective of identifying measures which would reduce agency costs and improve the marketable value of the timber sale offerings.

Several specific studies are referenced in my written statement and I will not cover them at this time. However, all of these studies have provided specific recommendations for improved management practices. The forest products industry finds that many of these recommendations, if implemented, could result in significant reductions in agency costs and dramatic improvements in the marketable value of timber sale offerings.

Several other witnesses on this panel have discussed specific examples of cost control and the value enhancement measures the Forest Service can implement. To provide a general estimate of the magnitude of the savings cost control measures could generate, I have informally surveyed several firms who manage industrial timberlands in the Intermountain West. Many of these companies operate in a manner similar to the Forest Service whereby harvesting activities are carried out by independent loggers who competitively bid contracts to harvest the private timber.

These methods of operation are quite similar to the Forest Service timber sale process. Harvest units are designated, timber volume is estimated, and contracts prepared and administered. The cost incurred by the private companies I contacted for these activities averaged about $4 per thousand as compared to Forest Service costs in the area in which I operate for timber sale preparation and administration ranging from $13 to $74 per thousand. If only one-half of this difference could be saved by imposing good cost control procedures, a large share of the alleged below-cost sale problem would be resolved.

Yesterday, we heard a great deal of testimony from the environmental community about Forest Service costs as well. Yet, it appears that the only acceptable solution would be to stop all timber sale activity entirely. This clearly is a somewhat radical and self-serving approach to solving the problem. We agree that costs are high, but rather than simply halt programs, we would suggest that cost control measures be immediately implemented.

The second area of general conclusion is that the implementation of a new accounting system to track the costs and benefits of all

Forest Service programs is essential to establish the factual basis upon which the problem can be completely described. Such an effort is also necessary to properly evaluate policy implications.

The one aspect of the debate on which all sides seem to agree is that the current Forest Service accounting procedures are inadequate to address certain financial questions which have arisen relating to Forest Service timber sale programs.

Difficulties abound because timber sales are designed to accommodate numerous management objectives, not simply the maximization of financial cash returns from the timber commodity. A meaningful economic analysis of the timber program must include only the costs and benefits directly relevant to the timber program.

The forest products industry wholeheartedly supports the Forest Service effort to evaluate its accounting system. We have discussed with them several specific recommendations regarding this effort and are optimistic that, once implemented, the new system will provide much more meaningful data on the complex questions concerning the financial merits of their programs.

Several examples of the cost allocation problems created by the multiple-use management practices employed by the Forest Service have been discussed by several other panel members here today. They have illustrated both how agency costs increased dramatically to provide for other resources and how cash revenues are foregone as multiple-use goals are incorporated in Forest Service timber sales.

Robert E. Benson at the Forest Service Intermountain Research Station has recently completed a research study indicating that timber sale revenues foregone in order to achieve other resource goals average $37 per thousand. Since current Forest Service sale preparation and administration costs are seldom in excess of $30 per thousand, correct accounting and cost allocation procedures which reflect the foregone revenues alone will account for many of the alleged below-cost sales.

Yesterday, you heard Mr. Kaid Benfield of the Natural Resources Defense Council testify that the revenues foregone on timber sales was negligible. This assertion is clearly not supported by the study I have just cited nor by our actual experience on the ground.

The third area which I would bring to the attention of the subcommittee is that consideration of policy alternatives which are directed to establishing financial management objectives for the Forest Service is premature, in our estimation, until the agency cost and value control measures are in place and the revised accounting system is operational. Furthermore, all policy proposals should be evaluated in the context of existing legislative requirements under which the agency operates.

Until the cost control and accounting problems we have identified are resolved, little is actually known about the true scope of this issue or what, in a policy sense, is really causing the alleged problem. Also, it is evident that strict financial objectives for Forest Service programs at this time would be in direct conflict with several management requirements established by existing legislation. Thus, we submit that policy proposals directed at regulating Forest Service programs based on financial criteria should be evaluated in the context of existing legislation, not as a separate issue.

I know I speak for all the panel members here today when I indicate that we have certainly appreciated this opportunity to offer our views, and, to the best of our ability, we will answer any questions you may have at this time.

Thank you.

[The prepared statement of Mr. Riley appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Riley.

I have one observation and question for Mr. McGuire. I guess the most sensitive area in all of this may be the construction of roads. Our testimony yesterday almost universally was to the effect that these roads are built primarily, if not solely, to access timber and that any other use of the roads was very secondary if not even detrimental. In fact, the testimony was that you don't have any outcry from sportsmen to build roads. In fact, sportsmen would rather not have the roads, that roads are there just to access timber and then the Forest Service attempts to justify the cost by assuming that there are additional recreational benefits to the road.

I remember someone made the comment yesterday that roads in national forests are supposed to "lay lightly on the land" or something to that effect.

I wonder, if you accept any of the proposition that these roads are built primarily, if not solely, to access timber if it wouldn't make some sense to modify considerably the specifications for those roads. We don't want to construct roads that we know are going to silt trout streams and things like that. But where that type of consideration is not greatly involved, I just wonder why the roads couldn't be built to considerably lower standards if their purpose is to access timber.

Would you want to comment on that, Mr. McGuire?

Mr. MCGUIRE. Yes, I would.

You are absolutely right. If the purpose of the roads is to just access timber, we could get by with substantially less cost in that road. We have been told for the last 15 or 20 years, since I have been involved with the Forest Service road construction that the reason we are building this high standard road, visually pleasing, 100-percent brush disposal, 12 inches of crushed rock is that we need an adequate surface for the recreational traffic. The industry by no means needs that type of a road to haul its products out on.

The other thing I would like to comment on the testimony yesterday was the public does use those roads. I experience, and I live in the Northwest and I use those roads on weekends, that there is a substantial amount of recreational traffic, and firewood gatherers. Those roads are used constantly. I don't see where he gets his information.

Mr. WHITLEY. You would then not agree with the supposition that there is not very substantial recreational use of the roads?

Mr. MCGUIRE. No, I wouldn't. I think there is—I guess it is your definition of recreation—there is use of those roads by the public.

Mr. WHITLEY. One further question of Mr. Welling whom I believe testified that there had been very substantial reduction of engineers and other employees within the Forest Service. I have had some information to the effect that at least some of those people were not involved in the timber program. Are you talking about people who were primarily involved in the timber program in the Forest Service or were they involved in other areas?

Mr. WELLING. If you are talking about the engineering department?

Mr. WHITLEY. Yes.

Mr. WELLING. Those people were directly involved in the timber road program. The Panhandle National Forest has been very instrumental in reducing their engineering costs. Just recently, we have sat down with them, and we have decided to go to a lot lower standard road.

We have one place we call the ridge, just to give you an example of this. It is a forest boundary between the Clearwater National Forest and the Panhandle National Forest. We built two roads side by side, one on each side of the ridge. One road cost $30,000 per mile to build. The other one was done with very little engineering. It cost $15,000 per mile to build, and we took the whole supervisory staff up there, and this was done on Forest Service sales, and you could not tell the difference between the road surface and the mitigating circumstances.

Mr. WHITLEY. You are really saying that you could cut down on your engineering and overhead and still have the same quality road. Now, my question to Mr. McGuire was, couldn't we cut down on the standards? And you are saying even if you have the standards, if you don't have to have 16 people to approve each paragraph, you can build to that standard and still save a lot of money.

Mr. WELLING. Correct.

Mr. WHITLEY. Thank you

Mr. Olin.

Mr. OLIN. Thank you, Mr. Chairman.

I want to ask Mr. Himmel a couple more questions. I understand your general viewpoint here was that the Forest Service basically has a high cost operation, the specifications are more complicated than they need to be, they are harder to respond to. In a large number of ways, they could streamline their operation. I would take it, then, you would also conclude, and you tell me whether I am right or not, that with regard to below-cost timber sales that we really should not be, as a matter of policy, allowing the Forest Service to continue having low-cost timber sales and that some means could be developed whereby they could be measured adequately and given an incentive to correct the problems that you are mentioning.

Mr. HIMMEL. I guess what I am saying is that at least in the Black Hills area which I am familiar with that there are no need for below-cost timber sales. I doubt that there would be such a beast if we had economics in mind and sale design and sale contract administration along some of the lines that we have suggested. Those things have not been criteria that necessarily have weighed upon the Forest Service historically in terms of utilization standards or silvicultural regimes or any of those types of things, because I honestly believe that they didn't feel that they were mandated to turn a profit, if you will, on their timber sale program anyway.

Mr. OLIN. Do you visualize that each individual sale might be justified or that perhaps, as we were pursuing with Mr. Bennett, that if you are dealing with a timbering plan for an area and you build a road with the first sale, it might take you several sales before you reach the point where you were breaking even or turning a profit?

Mr. HIMMEL. There could be instances of that, but in my experience, it seems that the Forest Service policy is to construct a road through an entire area on the first entry. I sometimes question whether we need to do that, whether we need to build that total mileage of road. Some of the other testimony implied that if we had more harvest per acre or closer spaced cutting units or larger units or whatever those might be, presumably we would not need to reach as many acres per year to achieve a given level of timber harvest and we might build some of these roads, at least, on a pay-as-you-go basis instead of all at once.

Mr. OLIN. In the Black Hills, that would appear to be feasible. Would that run heavily in conflict with other multiple uses, hunting, fishing, camping, hiking, those kinds of things?

Mr. HIMMEL. I don't believe so. The Black Hills is a unique forest in many ways. It is basically accessed. There are no roadless areas, per se, in the Black Hills. Most acres on the forest are being harvested now for the third or sometimes even the fourth time. As a matter of fact, I guess the first timber sale on a national forest ever was on the Black Hills.

Mr. OLIN. You are saying you have areas, then, that in timbering you could cut rather large areas, build a road to the area you are going to cut—I don't know how many acres you are talking about, but more than 25, let's say, at a time—but what would you be talking about in the concentration of cutting?

Mr. HIMMEL. Pardon?

Mr. OLIN. What size plots would you cut in order to get the economics you are talking about?

Mr. HIMMEL. Are you talking in terms of acres?

Mr. OLIN. Acres, yes.

Mr. HIMMEL. I am not sure I understand the question.

Mr. OLIN. Well, you are saying that——

Mr. STAHL. I think I understand your question. A timber sale area could be as much as 2,500 acres. Within that area there might be cutting units that vary from 5 to 30 acres with maybe a total cutting area of 400 acres.

Mr. OLIN. How big a concentration would you have to get?

Mr. STAHL. If we put that whole 400 acres together, eliminated the other 2,100 acres from the sale area so that we only had to access a road to that cutting area, we would do the same job in a concentrated area and that would considerably reduce Forest Service costs and industry costs.

Mr. OLIN. I agree with you, but is that the kind of thing you are talking about? Not necessarily that specific, but you could have a large area, 400 acres, which you would build a road to, you would log that, and that would be quite a bit more economical. You are saying that would also be acceptable, you think that would be acceptable to the people in your area with regard to the balance with other uses?

Mr. STAHL. Yes, sir; we would not change the silvicultural regime. We may change the number of entries. Currently, that forest wants three entries. We would do it in two.

Mr. OLIN. It is an interesting concept. The Forest Service in the area I live in is not viewing the subject that way. It basically is thinking in terms of ultimately harvesting all the forest but having the cuts widely dispersed.

Mr. STAHL. The Black Hills is an older forest managementwise, and we have various age classes already developed.

Mr. HIMMEL. Also, I am not sure you understand the Black Hills. There is no clearcutting. It is all partial cutting method of harvest. So, in many cases, even after a harvest, it really doesn't appear, I guess, that it has been harvested in the sense of clear cut areas or that type of thing.

Mr. OLIN. You are using selective cutting, then, in that sense.

Mr. HIMMEL. Yes.

Mr. OLIN. I see. That is very interesting. Thank you very much.

Mr. WHITLEY. Mr. Morrison.

Mr. MORRISON. Thank you, Mr. Chairman.

Really, I am pleased by the presentation by this panel. It certainly answers a number of questions that came up yesterday in the minds of many of us.

Greg McGuire, as one of my constituents, I am particularly delighted to have you here. I know the tremendous job you do as a forest professional.

I was very interested in some of these comparisons that various members of the panel came up with. Greg, you mentioned that in our area $10,000 to $30,000 per mile is spent for roads on private land and up to $80,000 for Forest Service land. That is three to eight times more expense when done to specifications that we seem to have pushed off onto—we also heard yesterday that the public land we are dealing with, that the Forest Service is managing, is land that nobody wanted and was of such a grade that, in fact, there was no way anyone could harvest any of the areas and return any sort of a profit to the Treasury. What I hear you all saying is that if the rules were the same for private and public land, in fact, much of that could be harvested as part of America's renewable resource.

Greg, am I close to right?

Mr. MCGUIRE. You are exactly right. In our area, I disagree again with the environmentalists. I think the Forest Service has some of the more productive land versus private timberland. It can be. I think, again, in our area, it is matter of, as Chairman Whitley said, it is the road costs that are the major factor along with some of these other administration costs.

Mr. MORRISON. I had just one other question, Mr. Chairman, and you have sort of touched this. Is the Forest Service also guilty, in addition to the requirements which sometimes seem to be beyond the necessary, of pushing costs off onto timber sales that are really involved with some of their other responsibilities?

Mr. STAHL. Do you want me to answer that? The example Mr. Himmel gave you on our exhibit 1 in our written testimony, the paragraph that he was referring to says, "The purpose of the revision is to update the inventory of improvement work needed and to collect funds commensurate with the bid premium in the Duling-Buckley contract." That sale was advertised at $2 per thousand; it sold for $30.50. The KV plan was revised from roughly $15,000 to roughly $240,000. That money was returned to the Government in the bid of the timber sale, but it didn't go to the Treasury because the Forest Service put it into their KV work.

Most of that KV work is, out of 16 items, 11 of them have nothing to do with timber.

Mr. WHITLEY. At this time, the subcommittee is going to stand in recess. We have a recorded vote in progress, and we will adjourn until 2. I would like to ask this panel, if you can, to come back. A couple of members have some additional questions.

[Recess taken.]

AFTERNOON SESSION

Mr. WHITLEY. The subcommittee will come to order.

When we recessed prior to lunch, we had this panel, and members of the subcommittee had not completed questions to this panel. I recognize Mr. Morrison to continue his questions.

Mr. MORRISON. Thank you, Mr. Chairman.

I really had only one more, and I think this is the ideal panel to make this request to. I think part of the figures and the information you furnished that were fascinating related to comparisons of costs for private enterprise versus Forest Service handling of a number of the costs of a timber sale. As I recall, one of the statements made, I think by Mr. Riley, was in the revenue foregone area that the average of $37 per thousand had a range of $18 to $60 per thousand and this was lost revenue because of practices specifically required by the Forest Service and that the $37 exceeded the average $30 in sale preparation costs. Do I have those figures right?

Mr. RILEY. That is correct, sir. Those figures are from a Forest Service Intermountain Station research study. Those are not generated by us; those are quoted from them.

Mr. MORRISON. I think those are very significant. I think we will probably make a significant impression on some of the attitudes of this subcommittee.

I would ask in my request that any side-by-side comparisons that you can make from practical experience on the ground, and I think someone else mentioned the roads just over the ridge from each other so that they were in comparable areas, that side-by-side comparisons of costs would be most valuable to us.

I really sense that what has happened in this whole procedure was that we have established through the years a variety of criteria to apply to these sales and have never really looked at the whole picture. I am presuming that the Forest Service cost accounting system will begin to put some of those factors together, but I think any comparisons that you can come up with at all that you could share beyond what you have in your testimony would be very helpful to us as we look at that accounting system.

I would also ask, Mr. Chairman, if it is in order, that these representatives of industry also watch this cost accounting system as it goes together for us and respond to it. Perhaps, Mr. Chairman, you will be holding hearings to some oversight on the accounting system as it goes together?

Mr. WHITLEY. We certainly will take a look at whatever accounting procedures are developed by the Forest Service. It is conceivable that we may want to get comments from a variety of sources on that when it is forthcoming.

Mr. MORRISON. I thank the chairman for that. We will certainly look at that. I know it is very difficult to put values on some of the practices that we have forced on as a matter of public policy, but I think there is no better comparison, from my point of view, from a land that is privately managed and an operation that is very similar to a neighboring piece of land when you are also practicing good stewardship of your own properties. So, that would be, I think, very helpful to us as we wind our way through this very difficult issue of the below-cost sales.

Mr. Chairman, thank you for the extra time.

Mr. WHITLEY. Mr. Marlenee, I believe you had questions for this panel.

Mr. MARLENEE. If I could just wait for a little bit, Mr. Chairman, and yield to my colleague Mr. Schuette.

Mr. WHITLEY. Mr. Schuette, are you ready at this time?

Mr. SCHUETTE. Yes, thank you, Mr. Chairman, and thank you, my friend from Montana.

Gentlemen, I enjoyed your testimony this morning. I would first like to direct a question to Mr. Malburg, my friend from Michigan. I enjoyed your comments and particularly hearing your views as a logger involved in the timber industry. My first question is, Mr. Malburg, given that the Michigan forests and the makeup of the stands in that State and given the need to have proper management tools to regenerate a healthy timber in the future, do you think that the Huron-Manistee National Forest in Michigan could withstand an end of Federal timber sale revenues?

Mr. MALBURG. Pardon me?

Mr. SCHUETTE. Do you think that the Huron-Manistee National Forest in which you do a lot of logging could withstand an end to Federal timber sales if we were to cease these programs, given the fact that we need to have proper management and regenerate healthy timber stands in the future?

Mr. MALBURG. I don't feel that in Michigan there is so much Federal land that the timber itself, the loggers would not be able to find enough timber to not have Federal sales.

Mr. SCHUETTE. What type of recommendations would you give this subcommittee and the Forest Service for a change in timber sale policy in the State of Michigan, Mr. Malburg? What would make your job more productive and more efficient and less cumbersome?

Mr. MALBURG. No. 1, less paperwork. No. 2, road construction. We have to build roads, I feel, that are equal to the ones that are out in the mountains. We don't have any mountains. We can cut a lot of money off engineering of these roads, probably cut them pretty near in half the amount of money that is needed to be spent on these roads.

Mr. **Schuette**. Would you give a brief description of your impressions of the difficulty in filling out a Federal sales contract versus a private one or from the State of Michigan?

Mr. **Malburg**. In those documents that I turned in for the record there, a State sale, when you pay them the money, once you sign the contract, you pay them as you go along, and they give you a receipt, and that is it. The Federal sale I am talking about here, I started a sale. We had to put the road in. Once we got the road partly put in to these certain stations, we could use the road. But we can't use the road yet because the paperwork isn't back, so in the meantime we have to move to a different sale and cut wood and then come back to this because the paperwork isn't finished yet. That is our biggest problem with the Forest Service sales.

Mr. **Schuette**. Mr. Malburg, I appreciate your coming and visiting us in Washington. I am proud that you are here today offering your opinions and advice for the subcommittee. I know we will all benefit from your comments. I know personally I would like to hear more of them in the future, sir.

Before I lose my time, just a quick question for the rest of the panel. Could you give this subcommittee and me personally any of your cost estimates of what the environmental rules and regulations that we need to follow to ensure and maintain environmental safeguards for all of those who come after us? What are the costs associated, do you think, in terms of to industry in coping with the rules and regulations and environmental safeguards that are in place today as a percent involved in a below-cost timber sale project?

Mr. **Himmel**. I can maybe come at that from my area a little bit. Percentagewise, I would rather try to give you an example, I guess. We manage about 65,000 acres of timberlands that are interspersed with the national forest in the Black Hills. We do that under exclusive cutting contract with the landowner. We manage those lands basically the same way that the Forest Service manages theirs. I would invite anybody to take a ride through the area and be able to tell when they cross from national forest land into this private land as far as the look of the forest and the activities that go on there.

I think that we probably harvest on that land somewhere around $15 to $20 per thousand board feet less cost than we do on contiguous national forest land. I wouldn't be able to say that is entirely due to environmental protections on the forest land, because I think we basically do as good a job on the private land as done on the forest land. In our area, I think it is more a case of just those extra costs, little items, the volume per acre maybe, as I mentioned in my testimony, the utilization standards that we might employ. We might favor utilization a little more toward a value point of view than strictly a cubic inches of wood to be removed from an acre of land point of view as the Forest Service does. But I think the end result is virtually identical.

In that case, that is approximately 15 to 20 percent lower cost.

Mr. **Schuette**. Thank you, gentlemen.

Mr. Chairman, thank you.

Mr. **Whitley**. Yesterday, I think we heard our witnesses telling us almost with one voice that they felt that the construction of roads was done almost entirely for accessing timber, as I mentioned this morning. Therefore, all costs connected to the construction of roads ought to be charged against timber sales. If you did that, you wouldn't have economically efficient timber sales.

I think I hear you telling us today that if you built roads for the sole purpose of accessing timber and didn't have to take multiple use into consideration at every turn, the construction of the roads would be considerably cheaper. If it didn't result in economic sales, it certainly would tip the balance considerably.

Maybe what we are getting to is that if you have multiple use in a forest and you pay a lot of attention to environmental protection and things that you wouldn't necessarily do in a privately owned forest, there is no way of escaping considerable additional cost, particularly if you lay on a whole layer of environmental impact statements and a lot of extra engineering and all these other things that you wouldn't do in a private forest. Would that be a fair consensus of what you all have told us? Does anybody want to comment on that?

Mr. HIMMEL. I believe that is a pretty fair consensus from our point of view, from my point of view in the area I operate in.

Mr. WHITLEY. Mr. Marlenee, are you ready to proceed?

Mr. MARLENEE. Yes, sir, Mr. Chairman. I don't have the figures that I was waiting on, but I will proceed anyway.

I appreciate the opportunity to welcome the panel and to pose some questions.

First of all, I have to congratulate Mr. McGuire on his testimony. It was very succinct, and it appears to go directly to the bottom line with regard to the costs involved in protecting and producing nontimber resources, one we are dealing with in timber sales and roads. Mr. Riley has given us the figures that I was pursuing earlier with regard to some of those costs.

You state on page 4 of your testimony, Mr. Riley, that the costs for timber sale preparation and administration are ranging from $13 to $74 per thousand board feet. Is that correct?

Mr. RILEY. Yes; that is correct.

Mr. MARLENEE. As compared to private companies that run $4 per thousand board feet?

Mr. RILEY. Yes, sir.

Mr. MARLENEE. Is this an industrywide figure?

Mr. RILEY. The $4?

Mr. MARLENEE. Yes.

Mr. RILEY. No, sir; that is not.

As you are aware, under the antitrust laws and all, we are somewhat prohibited from doing formal studies of the cost structure through trade associations within our own industry and compare one company's cost to another. That represents, as I stated earlier in my testimony, an informal survey which I personally collected from the companies which operate in my territory.

Mr. MARLENEE. All right. Then, on the following page, on page 5, you have some figures in there. The Intermountain Research Station has recently completed a research study indicating that timber sale revenues foregone in order to achieve other resource goals, those goals pointed out in Mr. McGuire's testimony, I assume, range between $18 and $60 per thousand board feet, averaging, it appears, about $37 per thousand board feet.

Mr. **Riley**. That is correct.

Mr. **Marlenee**. As per your testimony, do these costs—I will ask the panel—do these costs contribute to our being uncompetitive with Canadian timber? I understand it is a totally different system, but they are certainly driving up the cost of our timber here in this country.

Mr. **Riley**. Yes, sir; I think you could make the broad statement though the Canadian situation is certainly a complex one that if it would cost less to do business in the United States in the forest products industry, then one could compete better internationally. I guess it doesn't take any rocket scientist to figure that out. If we could reduce either the cost that the purchasers incur or to operate Federal timber sales, it would certainly help improve our competitive position.

Mr. **Welling**. Representative, we used to own a mill in Canada. I am glad we got out of it about 10 years ago. They operate a lot differently than we do down here. Basically, we operated—this was in British Columbia—we operated on a floating stumpage system. When the market was good, we paid $10 per thousand. When the market was very poor, we paid $2 per thousand.

The main differences seem to be we didn't have to come up with any money at all for reforestation costs. We did very, very little slash work. About the only costs we really incurred in the cost of that timber was logging the available stands. We did also, in this case let me point out, we did set up a lot of the timber sales ourselves at lower cost, and then the Forest Service just approved our projected sales.

Mr. **Marlenee**. I see. I haven't heard much complaint from this group with regard to mitigating the impacts of timber sales or preparation or mitigating the impacts of the nontimber resources that you have, the impact of timber sales on those nontimber resources. But I suspect that you feel somewhat castigated and discriminated against in having those charges, costs levied against your industry, do you not?

Mr. **Welling**. I think it is a fair statement. Some of the costs Mr. Riley gave you, when they start ranging from $18 per thousand to $60 per thousand, I think that is our biggest concern. There are some forests or some regions or some districts that operate a lot differently than others, and some have become a lot more cost conscious while others haven't. I think that is really our big concern. Until we can get the Forest Service in all areas to become cost conscious, we are going to have these big variabilities, and we are going to have sales below cost.

Mr. **Marlenee**. Carried through—Mr. Chairman, if I may. I see I am out of time again here. Carried through on a table or on a multiplication, we have a $37 per thousand board feet cost to mitigate nontimber resources. If I am not mistaken, we had about 10 billion board feet offered for sale last year in the timber industry from public lands, approximately that, 10, 11, 12 billion board feet. So, the cost to the United States of America for mitigating that was somewhere in the vicinity of $370 million. I point that out for the committee record here. At $370 million, it becomes a question of where you are going to get that money to take care of things like trails, to take care of the resources, to improve elk habitat, deer habitat, and wild game habitat.

There are one of two ways. I fear the environmental community may well have exposed themselves to a two-edged sword by bringing this issue of low-cost sales up, because if in our cost accounting process we continue to develop where these costs arise, the $370 million, then we are going to have to address how we are going to pay for it. The next question is, are we going to continue to have the timber industry, the housing industry, construction industry; the consumer ultimately pays for these costs, or are we going to levy these costs through the tax system that we have or a fee system that we have in the United States, charging for camping, charging for access to the public lands, charging for trail fees, and one thing and another?

With that, Mr. Chairman, I apologize for using so much time.

Mr. WHITLEY. Mr. Weaver, do you have questions or comments?

Mr. WEAVER. No, thank you, Mr. Chairman.

Mr. WHITLEY. I want to thank the members of this panel for their appearance before us today and for staying over to give us this additional opportunity for questions this afternoon.

Mr. MORRISON. Mr. Chairman, I wonder if I could make a special request at this time.

Mr. WHITLEY. Certainly.

Mr. MORRISON. In the hearing yesterday, we got information from at least one of the groups that environmental costs were running about 3 percent of the total sales. Yet, I sense in what is being projected here by this panel representing the industry that those costs are significantly higher than that. I am wondering if I could get permission from the subcommittee to ask a question of the Forest Service as to what they anticipate the actual costs of some of these special provisions are and that their answers to that question be made a part of the record for this hearing.

Mr. WHITLEY. Without objection, so ordered.

Mr. MORRISON. Thank you.

[The information follows:]

[illegible] CAROLINA
[illegible] WASHINGTON
[illegible]
[illegible] LOUISIANA
[illegible] VIRGINIA
[illegible] IDAHO
[illegible] CALIFORNIA
[illegible] GEORGIA
[illegible] DE LA GARZA, TEXAS
EX OFFICIO MEMBER
[illegible]
STAFF DIRECTOR

U.S. House of Representatives
Committee on Agriculture
Subcommittee on Forests, Family Farms,
and Energy
Room 1301, Longworth House Office Building
Washington, DC 20515

[illegible]
[illegible]
[illegible]
[illegible] MICHIGAN
[illegible]
EX OFFICIO MEMBER

June 13, 1985

Max Peterson
Chief U.S. Forest Service
Room 3008 South Bldg.
Department of Agriculture
Washington, D.C. 20013

Dear Max,

The Subcommittee on Forest, Family Farms, and Energy has recently concluded two days of hearings on the economics of federal timber sales. Panels for those two days were composed of public interest groups, timber industry representatives, and members from the academic field. All were very concerned about federal timber sales, albeit from different points of view.

Part of the testimony received by the Subcommittee centered around the cost of environmental protection. F. Kaid Benfield, an attorney with the Natural Resources Defense Council, stated that ".... the argument that it is the cost of environmental protection that drives timber sales into the red is largely misplaced...such costs result in only a 3% decrease in the present net value of a a forest plan with an ambitious timber program...." This statment was based upon the Draft Environmental Impact Statement, Allegheny National Forest at B-138-140. Subsequent witnesses from the timber industry questioned this figure, arguing that environmental mandates significantly increased the costs associated with federal timber sales. However, during their testimony no Forest Service figures were discussed to support their belief about the high cost of environmental protection.

As several Subcomittee members asked detailed questions about the costs of environmental protection, it is only fitting that the Forest Service have the opportunity to respond to the point made by Mr. Benfield. Therefore, I requested and received unamious consent from Chairman Whitley and the Subcommittee for the Forest Service to respond in writing for the Subcommittee record to the concern about the costs of environmental protection on federal timber sales. We look forward to your prompt reply.

Sincerely,

Sid

Sid Morrison
Member of Congress

Honorable Sid Morrison
United States House of Representatives
Washington, D.C. 20515

1960

JUN 26 1985

Dear Representative Morrison:

Thank you for your letter of June 13 requesting our response to the testimony of F. Kaid Benfield, Attorney for the Natural Resource Defense Council, before the House Subcommittee on Forest, Family Farms, and Energy on the environmental costs of Federal timber sales.

During the testimony of Mr. Benfield, he alleged that the Allegheny National Forest showed that environmental costs result in only a 3 percent reduction in Forest receipts. The analysis Mr. Benfield cited is from the Allegheny National Forest's Land and Resource Management Plan Draft Environmental Impact Statement (DEIS), Appendix B. The 3 percent figure Mr. Benfield mentions appears to be the reduction in Present Net Value (PNV) between two "benchmark" analyses.

The first benchmark analysis, with a higher PNV, was conducted as if the sole purpose of the Forest were to maximize net economic value, while meeting most legal management requirements to protect the basic resources. The second benchmark analysis included additional legal management requirements whose costs could be distinctly represented in the model. These are:

- to maintain all animal populations at minimum viable levels,
- to maintain current animal and plant distributions and diversity, and
- to maintain the current productivity of soil and water resources.

By comparing these two analyses, the reduction in PNV of the latter reflects the costs of protecting the listed resources.

While such analyses provide useful partial indicators of costs, they do not define all the costs (or revenues in reductions) occurring as a result of associated nontimber objectives of a particular timber sale. There are two major reasons why they do not. They are:

(1) Forest Plan analyses are not precise enough to separately define all nontimber costs. For example, the effects on PNV of limiting the maximum size of clearcuts and restricting harvesting to large trees were not analyzed in the Allegheny DEIS.

(2) Actual management and Forest Plan alternatives are designed to achieve many goals (associated with public issues, concerns, and management opportunities) rather than the single goal of maximizing net economic value that was assumed in the benchmark analyses. Typically, for example, attainment of animal populations larger than the minimum needed to maintain population viability is sought. The effect of achieving such populations on timber sale costs would have to be separately calculated for each alternative. While such analyses might provide useful data, they have not been attempted in Forest planning because they would be extremely expensive and may be impossible to do in a satisfactory manner.

Another aspect of the Allegheny's analysis warrants mention, as it appears to have led Mr. Benfield to an inaccurate conclusion. All Forest Plans investigate, to some degree, the costs of protecting nontimber resources. Unfortunately this question is not easily analyzed. Forests analyze sets of management activities or "prescriptions" intended to accomplish a host of resource objectives. They are able to evaluate the costs associated with either implementing or not implementing a given prescription because of a particular environmental concern. Each individual prescription, however, is written to follow many environmental standards and guidelines. To fully define the costs of these standards and guidelines would require the Forests to write a complete set of duplicate management prescriptions that totally ignore all environmental protection rules or mandates. Only in this way could a with and without comparison be defined that would reasonably display the full costs of environmental protection.

Regardless of analyses in Forest Plans, the relationship of environmental costs defined there to costs actually encountered in timber sales would be speculative. Some preliminary research findings of actual timber sales on several Forests in the Northern Rockies are now being completed. They suggest that reductions in revenues range from $10 to $60 and average $35 or $40 per thousand board feet on the studied sales. While no one knows what the costs are under different conditions, they are probably always significant. However, they are necessary to protect basic resources and achieve the nontimber purposes of multiple-use management.

We appreciate your interest in the National Forests and the opportunity to respond in writing on this subject. We would be happy to furnish any additional information we may have on the costs associated with Forest Service timber sales that you may find helpful.

Sincerely,

Allan J. West

R. MAX PETERSON
Chief

cc:
CRO George Lundy
LA Forest Supervisor, Allegheny NF
PA

BDahl:rmd:6/28/85

#0215

Mr. WHITLEY. Our next panel is composed of Mr. H.E. Matics, the wood department manager, Westvaco Corp., of Covington, VA; and Mr. Danny Goodbar of Two Brothers Logging, Lexington, VA.

I believe that at this time we will call up Ms. Mary Lou Franzese, vice president of the Idaho Women in Timber who is here. We had scheduled her with another witness, but the other witness is not here, so we will be happy to have you come and join this panel.

Mr. Matics, you have given us a nice little perspective on the George Washington and Jefferson and Monongahela National Forests. We have been turning through it up here, some of us, as we have anticipated your testimony. So, with the same admonition we had this morning that we hope witnesses will submit their full statement in writing for the record and summarize their oral statement in about 5 minutes or so, we welcome you at this time.

STATEMENT OF H.E. MATICS, MANAGER, WOOD DEPARTMENT, WESTVACO CORP.

Mr. MATICS. Mr. Chairman, we appreciate the opportunity, and we hope you will read the handout that we left there for you.

I am Ed Matics, wood department manager for Westvaco Corp. of Covington, VA. I am here today for two reasons. First, I want to indicate Westvaco's support for Forest Service management plans for the national forests in Virginia and West Virginia and, second, to indicate our support for the Forest Service's effective timber sales policies.

We operate a large pulp and paper product manufacturing facility located in the hub of the George Washington, which is 972,172 acres; the Jefferson at 673,200 acres; and the Monongahela at 840,000 acres. At the present time, my company is in the process of investing some $325 million to expand our production facilities. Upon completion next spring, we should be consuming in the near future some 42 percent more wood which will total about 7,800 tons of wood per day. Those of you in the logging business know that is a tremendous volume.

Over 80 percent of the wood furnished to our mill comes from Appalachian hardwoods which grow in the surrounding mountain forests. At the present time, only 6 percent of the wood we use at the Covington mill comes from Federal land, even though they own almost half the land in our truck wood territory. This amount of timber could greatly increase if more sales were offered.

Our fine papers mill at Luke, MD, employs nearly 2,000 people and has been a major contributor to the economy and tax base in western Maryland for many years. We are now in the early phase of a $250 million capital expansion program at Luke designed to increase production and strengthen its competitive position.

Only about 3.5 percent of the wood used at the Luke mill comes from national forests. Nearly all the sawmills and loggers who supply us with raw materials depend upon national forest land to some extent for the timber from which they make their livelihood.

I have been a professional forester for over 30 years in these Appalachian forests. I pride myself with not only knowing its timber but its people and its culture. Forests are the key to solving the problems of the Appalachian economy. Under proper management, our renewable forest resource can supply thousands of jobs, put millions of dollars into the economies of Virginia, West Virginia, Maryland, North Carolina, and Tennessee.

Appalachian hardwoods make the finest of furniture, the finest of bleached board and fine papers, and these are wood and paper products that can compete not only in the national economy but on a worldwide basis. These are products, for example, we talked about imports from Canada—a lot of our Appalachian hardwoods are shipped to Canada. I used to operate a sawmill several years ago. The highest price I got for No. 1 common oak was the oak I shipped to Canadian markets. Our bleached board paper is now being sold throughout the world. We feel we are making inroads into Japan and China. We feel it is one of the few products, because of our quality, that we can sell in Japan at a price comparable with Japanese products. We are talking about something that is really great for the Appalachian economy.

There are many good reasons for deficit sales. When you can produce products that can be sold on a worldwide basis, the term deficit sales is folly. These Appalachian forests ought to be looked upon for what they can contribute as a whole, and not in any one sale area.

The facts that you will see in the booklets we passed out are that all these forests in the Appalachians are underutilized. Anywhere from one-quarter to one-third of the annual growth is being lost in mortality, insects, and disease. Too much of this timber growth is concentrated in poor quality and slow growing trees. Too few trees are being harvested. Less than half the growth potential is being utilized.

The best way to increase growth and quality is to harvest mature and poorly stocked older stands, releasing the harvested area for new growth. Only when new, vigorous forests are created can we expect full production. Much of the money that has been spent in the last 20-some years under the Appalachian Regional Commission and other Federal poverty programs to help depressed areas could have been reduced if these forests had been managed more intensively.

As has been discussed here earlier this morning, much of the term deficit sale comes from the high cost of road construction. The forests cannot be managed until they are accessible. Dr. Carl A. Schenk, founder of the Biltmore School of Forestry, Ashville, NC, said, "If I had the tongues of angels, I would not sing hallelujah; I would sing more and better forest roads. Accessibility is the foremost prerequisite of sustained forestry." The cost of access roads for silvicultural measures, fire protection, scenic driving, hiking, and harvesting should be projected for their value over the life rotation of the forest and not on a single timber sale.

Year after year, the value of the timber sold from the national forests exceeds sale costs. If you will look in my written statement, you will see the figures. We talk about costs. The Forest Service basically has certain fixed overhead. If we could increase the sales on these forests, these costs would come down very dramatically.

Most studies critical of the timber sales program look only at each year's cash-flow. Typically, the Forest Service charges the total cost of building a road into an area of the forest against the first timber sale from the area. To me, that is like building a railroad and charging the whole cost against the first trainload of goods to pass over it. That is faulty bookkeeping. By standard accounting procedures, the cost of road construction should be depreciated over a period of years.

Finally, as has been mentioned earlier, the Forest Service has built many of its roads to standards much higher than necessary to move logs because the roads were intended for long-term use to serve recreationists, firefighters, firewood cutters, administrative personnel, and other forest users. Yet, present Forest Service accounting practices do not support road costs among these other uses. Consequently, the timber sales carry the entire cost of developing the road network.

The requirements to maintain viable populations of all vertebrate wildlife, the requirements to maintain vegetative diversity, and the limitation on the size of openings created through timber harvest are typical of the expensive restrictions which make the national forest timber program so costly. By enacting these restrictions, Congress determined that they were in the public interest. If that is so, then we should not be concerned if the national forests cannot show a profit from a heavily constrained timber management program.

We at Westvaco well recognize the need for fiscal responsibility by all Government agencies and the consequences of deficit spending. We are sure that many of the costs of managing national forests can be reduced. Like I say, if the cut was increased as we are recommending, the costs automatically would come down because the overhead shouldn't go up very much.

However, in our experience, the personnel of the Forest Service have been good, dedicated public employees, and we believe overall they have done a good job managing our Federal lands under the rules that were placed upon them by Congress. Much of the criticism of deficit timber sales by the Forest Service, as you heard yesterday, is not by those interested in better accounting and fiscal responsibility, but by groups wanting more national forest land designated wilderness. Their underlying goal I don't think fools anyone. That is less timber harvesting, and they will use any issue to achieve this goal.

In closing, I would like to ask each one of you to read the enclosed detailed perspective that Westvaco has prepared. We think there are a lot of facts in there. We at Westvaco know that our whole future of our industry and the money that we can spend in the Appalachians depends upon how well we use the forests.

[The perspective is held in the committee files.]

Mr. MATICS. We believe the Appalachian forests are too valuable a resource to be locked into single-use management. Wisely managed, forests present opportunity and growth. Our people in Appalachia need jobs. They don't want poverty; they want a chance to go to work. If we would use the timber that is tied up in these Federal lands to increase more jobs, I can say Appalachian hardwoods for furniture and paper can compete anywhere in the world. We think that this is a good investment. They are vital to all of our citizens and have invaluable potential for our country. We believe in obtaining maximum growth per acre in our forest lands and working to fully utilize each tree. Timber sales on these three forests should be increased, not reduced.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Matics appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. Matics.

Mr. Goodbar, I am fascinated by the name of your company, Two Brothers Logging. Are you one of the two brothers?

Mr. **Goodbar**. I am.

Mr. **Whitley**. Well, you look like a logger, and we welcome the opportunity to hear from you today.

STATEMENT OF DANNY GOODBAR, PRESIDENT, TWO BROTHERS LOGGING CO.

Mr. **Goodbar**. Thank you, Mr. Chairman. I am Danny Goodbar. I am president of Two Brothers Logging Co. in Lexington, VA. I live in Goshen, VA, and this is in Rockbridge County. Rockbridge County has approximately 26 percent national forest land. Where we operate from, we are right on the edge of Augusta, Bath, Botetourt, and Alleghany. There is 27 percent in Highland County. It is just a little further over from where we are. In Bass County—that is where we are presently working right now—there is 56 percent national forest land in the county. In Alleghany, it also has 56. Botetourt has 31 percent. So, you see there is a lot of national forest land in the area where we are logging.

We were talking about the recreation, more recreation and less logging. How much money does recreation actually generate for the Forest Service? The only money that I know that recreation really generates directly to the Forest Service is for a $2 stamp to hunt on national forest lands. You can hike, camp, with no charge, but whenever we log on national forest land, we have to pay for the stumpage. On existing roads as already there, we have to pay a road deposit which Steve Bennett was talking about this morning, his sale he just bought at White Oak Flats. There was a road deposit on existing——

Mr. **Whitley**. Let me stop you a moment, Mr. Goodbar. Does that deposit cover damage? What is that for?

Mr. **Goodbar**. It is for maintenance and damage, yes, sir.

Mr. **Whitley**. But it is what you suggest, it is a deposit and you get it back if you don't——

Mr. **Goodbar**. No, sir; you do not get that back.

Mr. **Whitley**. Oh, OK.

Mr. **Goodbar**. It goes for the maintenance, gravel, grading, and upkeep of the road.

Mr. **Whitley**. OK. Excuse me. Go ahead.

Mr. **Goodbar**. There was a $2,300 road deposit on the existing road that was already there. The one we are presently on right now was $900.

What I would like to see, we have all talked figures, facts, I would like to see this subcommittee come on an actual logging job and see what is going on, see what we are doing. We can sit here and talk about this all day long. Nobody has any actual view of what we are really doing. Congressman Olin has been on my job.

He has been real helpful to us. He has listened, and we are thankful for that.

When we talk about the private land, cuts on the private land, there are a lot of heavy contracts on private land. If private landowners manage their land properly, like the U.S. Forest Service is managing this land, they could win every forest management award in the country.

We think the U.S. Forest Service is doing a good job managing these forests. There are a few things that we could cut costs on, but as a whole, I think the national forests are doing a pretty good job there in the George Washington-Jefferson National Forest. Now, if you get to talking about out West, I have never been out there. I have never seen their operations, and I cannot comment on that.

Wildlife management, there are a lot of clearcuts in our areas, and I personally think this is one of the best things that has ever happened to wildlife management in the George Washington-Jefferson National Forest. You have more deer, you have more turkey, more grouse, and bear. The clearcut areas do not hurt the bear population. This is my opinion, now, because the bear are on back in the wilderness areas. They just don't come out where you can see them every day. They get back in the rough. If you see a bear—I travel in the woods all the time, all my life, and I just don't see that many bear run across the road. The sprouts in the stumps are good browse for deer. It is one of the best nesting habitats for turkey.

Just last week, I was traveling on the road going back after a load of wood and I saw this wild turkey run in front of me. It was a hen, so I just followed along behind her. She stopped. She went down through the woods, and she went under a big brush pile and sat right down on her nest. I have pictures of her, but I didn't have the time to get them developed. I carry a camera with me.

Just last week I saw a grouse. She had little chicks about this tall and there were crossing the road into a clearcut area. That is good protection. It keeps hawks and the wild flying animals from getting her little chicks.

There are a lot of hidden costs in these timber sales. Whenever we close out these sales, we have units. There are usually six or eight units in each sale. Whenever we close out these sales, we have to go back. We have to take the bulldozer and we water bar all the skid trails, the haul roads, and on steeper slopes, about every 50 feet, we put water bars. This takes time and also money. It costs my dozer about $35 per hour for operation.

We have to reseed all this. We have to put lime, fertilizer. We have to go in and scarify the ground up. We use a farm tractor to pull this chisel plow type. Also, in some instances, we have to put mulch on the seed. It depends on where it is. I am sure that there are some things that we do, maybe, that will hurt the environment, but we go to a lot of extra pain sometimes to keep erosion and sediment from getting in streams. You just don't find that much erosion on Forest Service lands. Just since we have gotten into this thing, I have been riding up and down the road out my way delivering wood to Westvaco or to sawmills where I deliver, and I have looked around the State highways. I see more erosion along the State highways than I do on the Forest Service land.

In closing, I think there is enough room in the national forests for the loggers, campers, and hunters, if we all work together. That is the whole thing right there. Everybody has to work together. Without the loggers, you are not going to have forest products. That is where it starts, in the woods with the loggers. That is your main hub right there. Ed is not going to operate his papermill unless the loggers bring the wood to his mill.

I appreciate the time of you people listening to us. I appreciate Congressman Olin for coming and spending 3 days on the George Washington National Forest, and I would like to invite all of you there sometime so you could see what we are doing.

Mr. WHITLEY. Thank you very much, Mr. Goodbar.

Our next witness is Ms. Mary Lou Franzese who is vice president of Idaho Women in Timber from Lewiston, ID. Ms. Franzese, we will be happy to hear from you at this time.

STATEMENT OF MARY LOU FRANZESE, VICE PRESIDENT, IDAHO WOMEN IN TIMBER, ON BEHALF OF FEDERATED WOMEN IN TIMBER

Ms. FRANZESE. As you mentioned, my name is Mary Lou Franzese. I am testifying on behalf of Federated Women in Timber, an organization of 2,000 women from six Western States who believe in productive and environmentally responsible forest management. Our members are homemakers, they are coowners in logging contracting firms, they are foresters, they are officeworkers, and more. We all share a common direct dependence on the forest resource. We live, we work, we recreate, and we raise our families in forest communities. We also worry about the impacts of public policy decisions and what they will do to our own lives.

For these reasons, we appreciate this invitation to testify before your subcommittee.

Our testimony today addresses three concerns: One, the proper recognition of the benefits of the timber sale programs; two, the human costs suffered when public policy denies us the ability to be productive citizens; and three, the ethical framework for making forest management policy decisions.

Earlier this year, the Federated Women in Timber unanimously adopted a resolution on the issue at hand which makes several points. First, analyzing only cash-flow is a short-sighted view of timber management benefits. We are introducing three exhibits at this time giving specific examples of nontimber benefits derived from timber investments. For example, one forest supervisor in Idaho chose to harvest an area on his forest because the sale would generate KV funds needed for a study of bald eagle roosting sites. The other exhibits are clippings from an Idaho hunters' newsletter that stress their need and desire for roads for hunting.

We also believe the Forest Service is rightly involved in providing nontimber outputs but should improve its cost accounting system to reflect the agency's responsibilities and costs to produce such benefits.

The evaluation of timber sale economics should also look beyond the sale boundary to the general economy, the chain of economic events timber produces from harvest to consumer. At each step along that chain, the Federal Government is there to collect a little more on its initial forest management investment. From this broader perspective, timber sales are consistent winners in our viewpoint, not financial losers.

On the other side of the balance sheet, we believe there is at least one issue that has been given very little attention: What are the human costs associated with major reductions, fluctuations, or uncertainties in Federal timber supply? Ostensibly, forest planning and other NEPA decisionmaking processes look at these costs. However, they are generally reported in terms like reductions in base employment or changes in job distribution, descriptions that barely scratch the surface in real human terms.

We have scratched the surface as an organization by talking to social service professionals, health professionals, and school administrators in our communities. What we have found below that surface is sobering. The impacts on the family from unemployment, loss of income, or fear about the future are staggering. In one community in a 6-month period, 316 sought help for unemployment related depression; 80 percent of those people were diagnosed as suicidal. Many also manifested symptoms of alcohol abuse which occurred in flagrant fashion after they lost their jobs.

In another area, the school superintendent told us the students suffer psychologically and sometimes physically. General attitudes of despair and desperation in the home are reflected in the classroom in terms of behavior problems and poor academic performance. Other children's performance suffers for lack of proper nutrition when they run out of money at the end of the month. School officials in another area of the West had to provide additional counseling services for their students. Teachers finally demanded help after incidents of child abuse became so serious that teachers could no longer deal with the resulting classroom disruptions.

We have found these situations are not isolated cases. As a health professional in my own community said, "if you think working is stressful, try unemployment."

Schools are particularly hard hit. They not only must deal with the psychological and physical effects on children of unemployment, they must also do it with less money. Less timber harvest means fewer dollars to run schools in the counties. For example, in Clearwater County near my hometown, forest funds and taxes from the timber industry account for 42 percent of the tax base. Voters in a financial pinch are uncertain about the future and don't vote in favor of school levies. Nor can they be expected to make up the gap left by lower forest fund receipts or reduced enrollment dependent State funds.

We believe it is unrealistic to expect counties to deal with dramatic reductions or wild swings in forest fund receipts. We believe the Pacific Northwest, including my State of Idaho and the one next door, Montana, has shouldered a disproportionate share of the recent national recession. The industry we work in and the people who live in our communities have not only suffered from the direct effects of the recession itself, we have and are continuing to be asked to set aside our productive resource base.

Through legislation and policy, Congress seems to be saying the Pacific Northwest is a beautiful area and someday we want to enjoy it, so you carry the burden. You set aside more and more of your ability to produce, even though there is no guarantee that the tourists and the backpackers and the out-of-state hunters will come.

Our industry is more vulnerable than ever to the effects of public policy. Our industry has matured into a market phase where our competitiveness is measured in terms of worldwide unit costs for commodities. Every policy decision now assumes greater importance, whether it affects interest rates, exchange rates, logging costs, or raw material supply. We hope and ask that as you evaluate and contemplate action on issues like timber sale economics or suitable lands that you be guided by a concern for both humans and the environment. As one author expressed it,

> The course of wisdom is difficult. It requires both a warm heart and cold reason. Perhaps the whales are sacred and the trees are sacred and the land is sacred. But mankind is sacred too and unique in that he seeks salvation and uses tools. If he abandons either, he abandons humanity.

We believe a future which deprives people of the responsibilities and the opportunities to find creative solutions to environmental problems and to be productive citizens is just as undesirable as a legacy for our children as a future without wilderness.

Our testimony today has touched on only some of the issues that were raised in the hearing charter, but we focused on the points of greatest concern to our members and their communities. Our individual States will be considering, in detail, some of the other points and questions that you have raised, and we would like to provide additional input when those States have had a chance to look at that material.

[The prepared statement of Ms. Franzese appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Ms. Franzese.

Mr. Weaver.

Mr. WEAVER. Thank you, Mr. Chairman.

Mr. Goodbar, I particularly enjoyed your testimony. I thought it was wonderful. I want to thank you for coming to this hearing.

Mr. GOODBAR. Thank you.

Mr. WEAVER. I represent the largest timber district in the Nation in southwest Oregon. To hear a fellow logger describe what he is doing in the hardwoods forests in Virginia is most interesting to me. You did an excellent job, and I thank you.

You said something, however, that intrigued me. You said you thought the Forest Service did a better job of managing their forests than private landowners, or did I misunderstand you?

Mr. GOODBAR. No; the private landowners—the Forest Service sets the standards of managing the forest in the United States. The majority of tree farms, corporations, they follow these standards for your tree farm awards.

Mr. WEAVER. Did you say that the private lands are managed as well as the forests?

Mr. GOODBAR. Yes, sir; they sure are.

Mr. WEAVER. Oh. I wanted to clear that up. I thought you said they did not.

Mr. GOODBAR. Whenever I work on private lands, I do the same things as I do on the Forest Service. A lot of times, I am under contract to do it. A lot of times I am not. But I seed, I water bar, I leave everything in good shape whenever I leave there.

Mr. **WEAVER**. That is wonderful. You sound like a first-rate logger and citizen to me. I am just very impressed.

Does this private timber cost as much or less or the same as Forest Service timber? Do you buy logs?

Mr. **GOODBAR**. I buy both, yes, sir. Sometimes it costs more; sometimes it costs less. It depends on supply and demand of the market. Sometimes we can buy private sales without bidding on them, and sometimes we can't.

Mr. **WEAVER**. The Forest Service auctions its timber.

Mr. **GOODBAR**. Yes, sir; they do.

Mr. **WEAVER**. While you negotiate, generally, for private timber. Isn't that correct?

Mr. **GOODBAR**. Pardon?

Mr. **WEAVER**. You negotiate for the private timber.

Mr. **GOODBAR**. Yes, sir, and there are a lot of private timbers auctioned off, too.

Mr. **WEAVER**. Oh, really?

Mr. **GOODBAR**. Yes, sir.

Mr. **WEAVER**. Mr. Goodbar, thank you very much.

I have one quick question for Ms. Franzese. With unemployment in my congressional district just at a terrible rate, we are in deep depression with families starving. It is awful. Real estate values have fallen by 50 percent in half of the communities in my district. People can't sell their homes because of the fall in price.

You did a very good job in describing the devastation of unemployment. I want to thank you for that.

Did you imply that deficit sales cause unemployment or don't cause unemployment? What is causing the unemployment in your area? I wasn't quite clear.

Ms. **FRANZESE**. I guess what my concern is, whatever the source is, whether it is the current market or whether it is public policy that affects Canadian import levels, whether it is forest planning that is reducing our suitable land base sometimes in half and will obviously disrupt supply in the future, whatever those public policies are, it comes down to unemployment in our industry eventually.

Mr. **WEAVER**. I completely agree with you, but what is causing the unemployment now? That is what I would like to know for the purposes of the record of this hearing. I mean, if it is the subject before us of deficit sales or lack thereof, I would like to know, but if it is something else—what is causing the unemployment today that you so ably described?

Ms. **FRANZESE**. Obviously, the market is related. Obviously, the——

Mr. **WEAVER**. It is the inability to sell your timber, right?

Ms. **FRANZESE**. Well, I don't see that as the sole reason. One of the reasons we may have difficulty competing with the Canadians is their timber and we pay more for Federal timber. I would see that as an issue.

Mr. **WEAVER**. No, quite—I have been testifying all morning in the Ways and Means Committee on my bill to sharply reduce Canadian lumber imports. My bill limits them to 20 percent of the market share, and that would, I think, get us all out of this. However, what I mean is the market isn't there. It is being taken over by the Canadians and also the Canadian lumber is depressing the price. But I just wanted to clear up that this is the problem with unemployment today, is it not in your area?

Ms. **Franzese**. Well, I would agree with that. That is a substantial part of the unemployment problem today, but as forest managers, we don't look at just today. We look at the long-term future.

Mr. **Weaver**. We have to. We have a heavy investment.

Ms. **Franzese**. Certainly, the suitable land base and other issues that tend to disrupt supply will, in the long-term, have a big impact on our ability to work.

Mr. **Weaver**. Sure. If we did away with deficit sales in Idaho, we would do away with almost all of them, wouldn't we?

Ms. **Franzese**. I guess it would depend on how you define that. In our viewpoint, we need to take a broader look at that before we determine what are below-cost sales.

Mr. **Weaver**. Sure. Thank you.

Mr. **Goodbar**. Mr. Weaver, could I add something to the Canadian market?

Mr. **Weaver**. Sir?

Mr. **Goodbar**. You were talking about the Canadian lumber. I was talking to a friend of mine. He is procurement manager for Burton, Parks & Boseby. They have a treating plant in Goshen, VA, and they build a lot of log homes plus they creosote cross ties and bridge ties. They also do a lot of soft treating, too, on your softwoods, your pine. Just the other day, he showed me an invoice where he had bought 30,000 feet of spruce lumber from Canada for $225 per thousand delivered. That is cheaper than what we can saw it at home.

Mr. **Weaver**. Yes, sir; I know. I know it is devastating. Thank you, Mr. Goodbar.

Mr. **Whitley**. Mr. Olin, I know you will be interested in talking to these witnesses.

Mr. **Olin**. This is the last group from the Sixth District of Virginia. I really want to express my appreciation to Ed Matics and Danny Goodbar for coming here today. Mr. Matics, of course, is the wood manager for the Westvaco Co. Westvaco is the largest employer in the Alleghany highlands. It covers a good share of my district. They live off the forests on top of their own technology, but the forest is the base, and it is well appreciated that they know something about forests. I am glad to have you here.

Danny Goodbar, you know all about him, Jim. I am glad to see you appreciated his talents of self-expression, both the quality of his thinking on the subject and his experience.

I want to ask, Ed, if, based on your experience, you would give me the benefit of your background here on this subject of below-cost sales. Westvaco operates timbering operations on your own land, you buy from private, and you buy from the national forests. What is the experience of Westvaco on the subject of below-cost sales where you have a situation where you are opening up an area and you have to build roads and so on? How do you run on that subject?

Mr. MATICS. Well, we have more flexibility than, of course, the Forest Service, because of the guidelines and regulations that have been handed down to them. We operate with a first cut in almost all areas at below cost also. You have to depreciate your roads over a period of time. Of course, as to what your depreciation time is, that is governed by IRS regulations.

There are many times when we have to make deficit sales, especially where you are trying to develop high quality hardwoods. If you go in with thinnings, what we call improvement cuttings to try to develop high value species such as black cherry, a good red oak, walnut, high grade yellow poplar, you are really taking the culls out to try to put your growth on the superior trees, so those are always deficit sales. It would be whether on our land or on Federal land.

The high cost of roadbuilding today in our area, as you well know, it is quite steep especially when you meet the environmental requirements which Westvaco does, because we are under the same pressures as the Forest Service. One bad article in the Roanoke Times can cause me more trouble in my job, the same as it does——

Mr. OLIN. It can cause me a lot of trouble, too.

Mr. MATICS. So, we have to see that they do a good job on our lands, because our lands are under public scrutiny just the same as Federal lands.

Mr. OLIN. Do you feel it would be practical for the Forest Service to develop some accounting practices that took into account what their objective was for a certain tract of land and how they plan to timber it?

Mr. MATICS. I think we know more of what our costs actually are than the Forest Service does, because I don't know how you put a value on a lot of these intangibles that they are willing to put into their programs. I do know that their engineering costs are much higher than ours. They have a large engineering staff, and we have a very small one. I think our roads are just as good as theirs.

Mr. OLIN. You don't think maybe they need to have quite that much help in engineering.

Mr. MATICS. I don't think so, no.

Mr. OLIN. I guess Danny agrees with you. Through a little tighter control, they could lower the cost of the road. Is that what you are saying?

Mr. MATICS. Yes; and they also have a lot of wildlife people. At Westvaco, we have one wildlife man for a whole company. But most of our foresters take wildlife in school. All of them like to hunt and fish. You don't have to worry much about wildlife because the forester himself has a personal interest in it. So, costs like this that are fixed with the Forest Service, ours are much less.

Mr. OLIN. I sort of pick up from most of the witnesses today that the Forest Service has quite a ways to go in terms of internal efficiency and really tightening things up and operating maybe just as effectively with a little tighter cost structure.

Mr. MATICS. I think that is probably true of any Government agency. I think, as I mentioned in my testimony, the Forest Service, although they can save money, still probably does a pretty good job. I have been at the Pentagon two or three times. I was in the

Air Force. I think, of the two places, if I were going to cut money in your position, I would go over to the Pentagon rather than going to the Jefferson or George Washington National Forest.

Mr. OLIN. I wonder if Mr. Goodbar has any short comments in any of these areas, and that will be about the end of my questions.

Mr. GOODBAR. Pardon.

Mr. OLIN. Do you have anything to add on this?

Mr. GOODBAR. Yes; they can cut costs on some of the roads. Some of it could be in the engineering department, but they have come a long way in the last 3 or 4 years in their cost cuts on the roads. That is where a lot of your cost is, in the road.

Mr. OLIN. Do you feel the practices in your area today of roadbuilding are reasonable in terms of cost? I know they have cut way back.

Mr. GOODBAR. Yes; I think they are pretty reasonable on their lower level roads like your D level. Your D level roads is a lower level road.

Mr. OLIN. Yes; I think that is a road only for logging, isn't it?

Mr. GOODBAR. We are using it only for logging, but they will be left open for fire and wildlife management and possibly open to the hunters later on. They have cut the costs considerably.

However, there is one other thing you have to take into consideration, too. On these roads, some of the trucks we are running on these roads have heavy loads. We have to have pretty good roads, because whenever you lose a $60,000 truck, it is a big loss.

Mr. OLIN. Yes. OK. Thank you very much Ed and Danny.

Thank you, Mr. Chairman.

Mr. WHITLEY. Mr. Morrison.

Mr. MORRISON. Thank you, Mr. Chairman.

Mr. Goodbar, in the area where you log, are most of the roads already in place?

Mr. GOODBAR. A lot of them are, yes.

Mr. MORRISON. So, you don't face the same problems that some of our Western colleagues face?

Mr. GOODBAR. No; not to that extent. There are a lot of roads that already are in place, and what we will do is take off where they stop and build a road farther. There is a lot of them. There is a lot of land in the George Washington and Jefferson National Forests that has poor access to it to start with. There is a lot of private land. They have to get a right of way across this private land. Sometimes you need more roads, but the majority of them are open to multiple use.

Mr. MORRISON. OK.

Ms. Franzese, I appreciate your comments. I want to assure you the subcommittee respects your concern for the human side of the issue. You are right in that you are the only one, I think, who has expressed in these 2 days of hearings that aspect of it.

I noticed in the resolution that your organization passed earlier this year, you talk about a positive economic chain of events that starts with a timber sale. Could you elaborate at all on that? What happens?

Ms. FRANZESE. Basically looking at our own communities, let's just say the logger is paid for his activity or the company is paid for his or her management of that company, and they use that money in their community to buy goods. It turns over. At each step of the way, those people are paying taxes when they receive income. That is one way it goes into the income and one way the dollars are going back to the Federal Government.

I guess that is the angle we were looking at. The Federal Treasury is paid from more than one direction. There are also suppliers to the companies that we have or the companies that we work for. We buy goods and services in the local community and, in turn, those people pay taxes.

Mr. **Morrison**. So, I sense that you are saying there is perhaps a justified expenditure on occasion to keep this timber supply available just for the social concerns that go with it.

Ms. **Franzese**. Yes.

Mr. **Morrison**. I noticed, Mr. Matics, in your booklet that you handed to us that you sort of follow the same track. It says, every $1 in timber generates $27.65 in value.

Mr. **Matics**. Yes, sir. I certainly believe that.

Mr. **Morrison**. I think that is a significant contribution to the economy, and those points are not lost on this subcommittee. I thank you.

Thank you, Mr. Chairman.

Mr. **Whitley**. Mr. Foley.

Mr. **Foley**. I would like to join my colleague, Mr. Morrison, in welcoming Ms. Franzese to the subcommittee. She is a resident of Clarkston, WA, appearing here on behalf of Idaho Women in Timber and is, I understand, a graduate forester herself.

I think your testimony is very important and will add to the record that this subcommittee will be compiling. I commend it to its members

I apologize, Mr. Chairman, for not being able to be as much in attendance as I would want to be because of the requirements on the floor, but I will use my moment to mention that Dr. Petry from Washington State University is scheduled to testify later this afternoon. He is a distinguished professor of finance and marketing at Washington State University and has done extensive analyses in fisheries and wildlife. I commend his testimony to you.

Thank you, Mr. Chairman.

Mr. **Whitley**. Thank you, Mr. Foley.

I have just one question for you, Mr. Matics. We had testimony yesterday from persons who talked about the George Washington National Forest and the Jefferson National Forest in particular. The thrust of their recommendation was that we should not build any more roads in those two forests, and we ought to limit the sale of timber from those forests to the existing levels. They thought that would be the most sound management recommendation that they had. In fact, they didn't believe that it was possible to have any economic timber sales in those two forests.

Would you want to comment on their testimony?

Mr. **Matics**. I would disagree with those statements in their entirety. The Appalachians grow the best hardwoods in the world. We are losing almost one-third of them through mortality. It is like a farmer only harvesting two-thirds of his corn. These forests have very valuable hardwood species in them. They can compete in worldwide markets. It is a disgrace that we don't use them properly. The good Lord gave them to us as something that grows nowhere else, and people that can't see using what God has given us for the benefit of everybody has a pretty narrow mind, in my opinion.

Mr. WHITLEY. Ms. Franzese said we needed a warm heart and cold logic. She has provided the warm heart, and I suppose you are providing the cold logic. [Laughter.]

We thank you very much.

Our next panel is comprised of Mr. John Davenport, a consultant of Portland OR; and Mr. Joe S. Miller, representing the Western Forest Industries Association of Washington, DC. Our first witness on this panel is Mr. John Davenport of Portland, OR.

Mr. Davenport, you have heard the previous admonitions to the other witnesses. We would invite you to submit your entire written statement for the record and to summarize it in your oral presentation, and we will be happy to hear from you at this time.

STATEMENT OF JOHN A. DAVENPORT, INDEPENDENT CONSULTANT, TIMBER AND FORESTRY

Mr. DAVENPORT. Thank you, Mr. Chairman.

I would like to approach this problem of below-cost roads from a different perspective.

My name is John Davenport. I am an independent forestry consultant specializing in public timber problems. I commend the subcommittee for holding these hearings, and I agree you should have jurisdiction.

On these so-called below-cost timber sales, the record developed so far shows the issue of below-cost timber sales dodges the real problem, namely, should the national forests be managed at all and, if so, how should it be done?

No issues, in my opinion, have been raised in the record which warrant the need for legislation in regard to below-cost timber sales. By 1907, when most of the western national forests were designated, great concern arose in the West that these lands would become permanent preserves which would ultimately have devastating economic effects in the whole region. On May 2, 1907, the Secretary of Agriculture approved a pamphlet entitled "The Use of the National Forests." This book eventually became known as the use book. In an attempt to allay the fears of the westerners, the book described in detail how and why the forests should be used. It was essentially the first Forest Service manual.

The premise was simple: Place the public land under scientific management; promote the public welfare by using the land and by planning for long-term benefits. I have already provided a copy of that document to your staff.

For the first 50 years after the formation of the Forest Service, most, if not all, Forest Service sales were probably below cost. Take the Black Hills which was mentioned here today. It is the national forest that has been under management for the longest time. In the beginning, in order to operate that forest, the Forest Service literally gave away the timber, the ultimate below-cost sale, because when they could use the timber, then they could manage the forest.

Harvesting timber on that forest has today created a balanced and beautiful national forest.

If the subcommittee desires to delve into the history of the subject more deeply, there is a book titled "Bernhard Eduard Fernow." The whole frontispiece of that book is listed in my statement.

Dr. Fernow was Chief of the Division of Forestry in the Department of Agriculture from 1886 to 1898. He, more than anyone else, was responsible for legislation setting up the national forest system. Dr. Fernow—you have to understand, in the 1890's, a forest ranger was more like a cowboy than anybody else. He had to get around on a horse and he generally carried a rifle, and he was considered to be the equal of a cowboy. Dr. Fernow was concerned about how to raise the status of a forester to a profession.

He founded the first American foresters' school at Cornell, and he later on taught as a dean of the faculty of the Forestry School at the University of Toronto. He argued for use, to maximize timber production and future growth for future generations. Conservation through wise use was the essence of his appeal.

These hearings focus on whether there is a need to provide a profit in the short run. If profit is a requirement, the whole purpose of the national forest system is blunted. The management system must, as described by Dr. Fernow, consider long-term needs in order to promote the public welfare. And in order to have management on the forests, you have to use the timber.

Somehow, we have gotten away from the object and turned our attention to the subjective, as described by Chief Peterson on page 10 of his testimony. Management of public lands by emotion is impossible.

I make the following recommendations: One, manage public timber lands for long-term benefits. Use the land in order to prepare for the future; two, create a system which promotes stability in the industry and in communities, and disregard below-cost sales. In other words, if you are going to manage the forests, you have to use it. You have to cut the trees. Below-cost sales become irrelevant.

The third recommendation, do away with the purchaser credit system of building roads. Congress should establish a permanent road trust fund financed from timber receipts and pay the builder of permanent roads, be it the timber contract holder or a contractor. Not only would this eliminate most below-cost sales, it would be fair to everyone.

Here is the issue as I see it. If the Forest Service puts up a sale and a purchaser is willing to pay whatever they say it is worth, say, $10 at the appraised price. That is not a below-cost sale to that operator. He is willing to pay it because he knows he can use it. It is a below-cost sale because the cost of putting it up is too high. That is a Forest Service problem.

I would like to tell a little story now. This is true. This is my history. I went to work in Oregon in 1955 in the Umpqua National Forest, and I grew up in the north Umpqua drainage on three ranger districts. Last summer, out of curiosity, I got in my car, I was in the area, and I went up there.

When I was there in 1955, the staff of professionals on that ranger district was 8, and then they had 4 clerks, 12 people. Now, they have over 115 to do the same job. This is the issue that Mr. McGuire raised today. There are so many things to consider that they have an enormous staff, and that is creating a lot of the issue of below-cost sales.

I went out in my car and I spent a whole day, and I traveled over the whole forest and looked at what I had logged 30 years ago, and it was unbelievable. The trees were 75 or 80 feet tall and over 1 foot in diameter. We had none of these constraints that they have now. In fact, the only thing that was disastrous in that trip occurred in the late 1960's. There was a great hue and cry about clearcutting. So, the Forest Service decided that they would go to a seed tree method, and they had left, maybe in a 40-acre tract, they had left maybe 150- or 200-foot-high trees and planted the area; 5 years later, a big storm came along and blew them all down. That was because of the constraints imposed upon them from the Multiple-Use Act.

It is my opinion that there have been too many constraints, too many subjective things to study, and it has made it very difficult to operate logically.

Thank you.

[The prepared statement of Mr. Davenport appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. Davenport.

Mr. Joe Miller.

STATEMENT OF JOSEPH S. MILLER, REPRESENTING WESTERN FOREST INDUSTRIES ASSOCIATION

Mr. **Miller**. Thank you, Mr. Chairman.

I seem to be the cleanup hitter here, and I don't have all that much to say because you have had so much good testimony.

I am Joseph S. Miller, representing the Western Forest Industries Association of Portland, OR. We represent over 100 forest products plywood operators in the Pacific Northwest, principally in Oregon and Washington, but into Idaho and Montana also, the area in this case that is pretty much under question. I might make a little note that it is the first time I have been before this subcommittee since I testified on the Timber Contract Modification Act, and, Mr. Chairman, I want to particularly thank you for what you did early last October. We couldn't have made it without you, and we are very appreciative of that.

I am not a forester or manager of forests, so I can't comment much on the technical aspects of things. There has been an excellent body of testimony presented here I think, but based on my 25 years with WFIA, I have an observation or two.

Maybe the principal one is that in retrospect, it kind of seems a shame to me that the Forest Service has not employed some kind of cost-benefit ratio system that is used by comparable Federal agencies. Mr. Morrison is very familiar with the Bureau of Reclamation and the Corps of Engineers which have employed this system for as long as I can remember, and that is a fairly long time. I think it is a very useful discipline.

The empirical evidence from those two particular agencies with which I am familiar shows that the benefits of a particular project cannot be sometimes measured at the time. I would just give you, for example, the example of the Grand Cooley Dam which was the greatest project ever built by man. When they first figured out cost-benefit ratios on it, they assigned virtually nothing to recreation. Today, one of the greatest recreation areas in our State is Franklin D. Roosevelt Lake behind the dam which perhaps comes close to rivaling Mount Ranier Olympic or the North Cascades National Parks as a great recreational area in our State. Of course, you would know this because the experience of the Tennessee Valley Authority was pretty similar with the great lakes that created through North Carolina, Tennessee, Kentucky, Alabama, et cetera.

So, it seems to me that there have been no adequate measurements on the whole timber management program in these forests that are under question. All of them are complex entities, and they are subject to the vagaries of nature, blister rot, bark beetle, too much undergrowth, and fire.

It seems to me that the fundamental question that we have been talking about here is does multiuse management, which includes necessarily timber cutting, does it improve on nature? There is a lot of evidence, as John Davenport, my old friend and former associate, has pointed out, there is considerable evidence that it really does.

Wildlife management which the fellow from Michigan talked about and the fellow from Virginia talked about, is it enhanced or impaired by forest management which includes roads and timber cutting? Is it better by leaving the so-called roadless areas in the wilderness state? It seems to me that very good arguments have been made maybe on both sides of this case.

Then there is the question of disease which is often so rampant in the intermountain region of this country. Is it better controlled by leaving it in a wild state or by forest management?

I will skip the young lady from Lewiston, ID. She touched on the question of employment dependent communities and that which the original 1897 act creating the Forest Service, it clearly said in the preamble that these forests were to be used to support the communities that were around them.

There are so many questions like this that we haven't really—the testimony here indicates that the answers may not be fully known. Now, I am not unmindful of the many good works of the Wilderness Society who seem to be the chief fomenters of this below-cost sales issue, but I have read the papers by Peter Emerson and these other point of view espousals. It makes me suspicious of a simplistic approach to a many faceted and complex problem.

Thank you, Mr. Chairman.

Mr. WHITLEY. Thank you, Mr. Miller and Mr. Davenport. Both of you have been on the stand for a long time representing your area. You bring us a lot of years of experience, and we appreciate your appearance here today.

Mr. Morrison.

Mr. MORRISON. I have a couple of things for these two oldtimers. Forgive me if I use that term, but you both have been over the hill a few times, and we welcome you back.

Mr. Davenport, your concept of utilizing a permanent road trust fund is rather intriguing to me. In other words, you are saying consider these roads as investments in the future. Write them off for what they really are as opposed to an integral part of the sale. They then necessarily reflect a deficit when in fact the panel before you very clearly stated that they were benefiting now from investments made a number of years ago so they had access to these fine hardwoods in the George Washington Forest.

Mr. DAVENPORT. Yes, sir.

Mr. MORRISON. I respect that. Has that been seriously considered in some of the planning that we have done on road investments?

Mr. DAVENPORT. So far, it has been opposed by OMB, people like that. It has been opposed by the Forest Service. It has been favored by people in deficit sale areas because instead of building the road out of the immediate timber, you separate all these different aspects of it. How much of it is for recreation, how much for timber, how much is for this, and how much is for that. You take it out of this fund. Congress, as I envision it, would say, all right. You have $4 million to spend on roads this year. Put that much in from timber receipts, and then tell the foresters that is what you have. Break it up by your regions. When a guy builds a road, you pay him for it.

Mr. MORRISON. It is all the same money.

Mr. DAVENPORT. The same money.

Mr. MORRISON. It is just a matter of accounting. I get the strong feeling that if the Forest Service comes up with anything reasonable at all as far as a useful accounting system that is accurate, perhaps we should look at the trust fund concept. You have raised an interesting point, as did my friend, Joe Miller, with his cost-benefit ratio. Perhaps, again, if the accounting system is worth anything, we could go to a cost-benefit ratio concept as the determinant in where we actually proceed with the investments of some sort of a permanent road trust fund.

Mr. MILLER. It seems they have worked in a lot of other agencies, too. To add an addendum to John's point about the trust fund, I think we both have some rather sad memories of that. In early 1970, we had a bill that went to the floor of the House which was called the Timber Supply Act. It was based on creating a trust fund a la the highway trust fund out of the receipts of the Forest Service. It seemed like a fairly innocuous bill going in, but our environmental friends, particularly the Sierra Club, they needed an issue to rally their troops on and they picked on this one and, for a variety of factors, we lost the most humiliating of all defeats that you can lose in the House of Representatives. We lost on the rule by 44 votes.

The issue has been kind of dead since then, but, frankly, it is still a pretty good one, I think, in terms of the long-range management of the national forests.

Mr. MORRISON. Thank you very much.

Mr. Chairman, thank you.

Mr. WHITLEY. Thank you, Mr. Davenport and Mr. Miller.

Our next panel is comprised of Mr. Robert E. Wolf, forester, St. Leonard, MD; Mr. John H. Bueter, associate dean, College of Forestry, Oregon State University; Mr. Alaric Sample, graduate forestry student, School of Forestry at Yale University. We await the next panel.

Mr. Wolf, we are delighted to have you, and we will be happy to hear from you at this time.

STATEMENT OF ROBERT E. WOLF, FORESTER, ST. LEONARD, MD

Mr. WOLF. I am delighted to be here, Mr. Chairman. I have filed a statement and an addendum to it and a summary that is printed, and I will try to just briefly summarize what I have outlined.

The economics of timber is older than forestry. The question of what will it cost us to produce a good or service is the basic question every business asks itself when a venture is undertaken, and it keeps asking it if it is going to remain in the market.

Forestry is a business with a resource conscience. My paper discusses how, as a Congressional Research Service employee, I responded on March 7, 1984, to the House Committee on Appropriations request that I use Forest Service data to answer questions the Forest Service had not answered when the committee asked them. The Forest Service provided certain data to the committee, didn't total it, didn't show what it meant, didn't provide the ranking as to the range and effect of timber sales, and CRS was asked to analyze that data for the committee, and that is what I did.

I have outlined it in more detail in my statement.

I also discuss the criticisms of the work by the Forest Service as well as by the National Forest Products Association. My paper cites some NFPA testimony in 1960 on the Multiple-Use Act when it was before this very subcommittee. Where the Forest Service had asked for this legislation, the National Forest Products Association wanted direction in law that the national forests be made financially self-supporting.

I have also cited the act which defines multiple use saying that it is not necessary for the forest to give the greatest dollar return. This term to me suggests that a traditional profit and loss outline is implied and that a return is anticipated.

My paper also cites the same concept outlined by the Chief of the Forest Service in 1914, Henry Graves, which included a concept of a forest-by-forest accountability. The subcommittee asked nine detailed, multipart questions, and I sought to answer these in as much detail as I could, and I prefaced this by discussing the state of Forest Service data and its shortcomings. I do believe there is considerable data available at the forest level regions and the Washington office. Rather than designing a lot of new systems, I would urge that the many types of information already being gathered be examined. A lot may exist and it may just be a question of organizing it so that it can be useful. Also, some may not be useful. This will assist in keeping costs down to develop a system.

I believe that cost accounting, properly used, can be a friend to multiple-use resource management. It is not the only tool, but it is an important starting point. One needs to know costs of production; one needs to know revenue; one needs to know cash-flow. Revenue must exceed costs to have capital formation for investment, and that is true in government just as it is in business. And this investment is needed to maintain the forest factory.

With these sort of things known, the difficult area of costs and benefits apportionment and noncash benefits and costs can be more effectively addressed. Using up one's timber assets to sell timber is not cost effective. Using Federal appropriations to subsidize timber or other benefits needs to be weighed on a public interest scale where it is measured against the other requests that those sponsors contend are also worthy.

The highly respected chief of the Appropriations Committee surveys and investigations staff, C.R. Anderson, filed two reports this spring. One on April 26 deals with reforestation. The other on April 15 dealt with timber and roads. The subcommittee may wish to obtain those from the Appropriations Committee.

After a careful review, Mr. Anderson recommended that the Forest Service provide for each forest data on costs and revenues. He prefaced this by stating he does not accept the proposition that the Forest Service cannot construct a profit and loss statement. He also observes that the Forest Service refused to provide data in a manner that would permit the Congress to examine this issue. I support Mr. Anderson's recommendations.

On March 21 of this year, a Forest Service team reported to the chief on the Black Hills National Forest in South Dakota. This is a commendable report despite some serious shortcomings because it represents an internal effort to examine the issue of timber sale costs. Some important Forest Service observations are:

One, FORPLAN, which is the methodology they use for examining economic issues, never explicitly calculated timber harvest cash flow.

Two, forest plans do not calculate timber cash-flow;

Three, managers say cash-flow calculations are not done;

Four, managers say cash-flow analysis does not influence decisions;

Five, managers are largely unaware of how current decisions have affected and will continue to affect future cash-flow; and

Six, the key point is that managers are trading cash-flow for both current benefits and investments in the future, but the terms of the trade have never been clearly defined. Thus, it is impossible for managers or an outside review team to judge whether an appropriate balance has been struck.

These are frank, useful observations by Forest Service professionals seeking to make resource management more effective.

The Forest Service has circulated drafts of some general approaches to cost accounting. The detail, format, and goal have not yet been spelled out. In response to your questions, my paper outlines a number of revenue and cost issues and elements and recommends they be considered. One point I would emphasize is that forest level tests and trials be used so that competing ideas can be evaluated so that the most sensible approach is adopted. The selected system should be one that professional land managers embrace because it helps them deliver more cost effective multiple-use management and does not make them servants of accountants and lawyers.

Since delivering my testimony to the subcommittee, I received a copy of a Forest Service publication on April 18. It is entitled "Multiple-Use Timber Sale Examples." It is their February 26 testimony enlarged by a third example. I prepared a two-page critique and analyzed and consolidated their financial summaries that were in their appendix and submitted them to the subcommittee.

These showed timber cash-flows. I provide totals and averages, and show what the cumulative negative and positive cash-flow will be in total dollars as well as on a per thousand board foot basis. I also showed the recent timber prices for comparison with those the Forest Service used.

In that document, the Forest Service said the whole story was not being presented, and the whole story, in their view, is a long-term multiple-use one using real field timber sale examples. In my view, the document fails to help the subcommittee and the public understand the long-range benefits, and I think each national forest has a real multiple use story to tell. I was quite disappointed that it didn't tell it. It did not document what the other values were, what the current condition of the resources are, and what ought to be done in a comprehensive manner. It read more as a justification for timber sales and roads.

I would close just by saying that my initial reaction to the early studies that were done by others was that they were inaccurate and that the overall revenues far exceeded costs, and I dismissed them. I was wrong. I think whatever their defects, they were essentially correct in their conclusions, and I think that there is an issue of cost accountability, but some care has to be used in how you go about using it, and it is only one of the several tools that ought to be used.

Thank you.

[The prepared statement of Mr. Wolf appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Wolf, for a very comprehensive statement.

Mr. Beuter.

STATEMENT OF JOHN H. BEUTER, ASSOCIATE DEAN, COLLEGE OF FORESTRY, OREGON STATE UNIVERSITY

Mr. BEUTER. Thank you, Mr. Chairman.

Members of the subcommittee, my name is John Beuter, and I am professor of forest management and associate dean of the College of Forestry at Oregon State University.

I was asked by the subcommittee staff to appear today to summarize a report I did earlier this year for the Congressional Research Service and to comment on some issues related to below-cost Federal timber sales. My report, which is 140 pages, it is my understanding, will be distributed to the subcommittee. I have provided a summary of it in the written testimony, and I have also tried to answer the nine questions that were posed in the charter of the subcommittee. So, I will just make a few comments here today that will skirt all of this and allow us to move on.

Before I really get into it, I would like to say what I have here as a heading is a good word on behalf of the Forest Service. In focusing on below-cost timber sales which have a bad connotation, some witnesses have tended to overstate the negative. You should be careful not to obscure the fact that the national forests, for the most part, are being managed by conscientious, dedicated professionals doing the best they can under very difficult circumstances.

As with any large organization, there is momentum spawned in tradition that makes it hard to change. We have to remember that behavior that is rewarded will be repeated, and the Forest Service has operated for a long time, and a great amount of the time that they have operated in the timber sale business, there wasn't much change. The emphasis was on development of the West, settlement of the West, development of the national forests.

Congress provided the guidelines and the appropriations that reinforced the behavior of the Forest Service. The agency itself provided evaluations, merit awards, and promotions that rewarded the actions that were undertaken, and the public, by and large, approved. So, if the agency has erred, we are all a party to it to some extent.

However, things have changed. After NEPA was passed in 1969, we entered an era of environmental awareness, and I believe now we are entering a new era of cost effectiveness awareness. These things have happened rather rapidly, and it is taking some time to adjust.

I am encouraged by some of the things I see being done in the Forest Service. As has been the case with others, I have been a skeptic of their planning process. About a month ago, I spent half a day on the Siuslaw National Forest in Oregon and listened to their planning team present their management situation analysis. I was impressed by an intelligent, conscientious staff who really know what they are doing.

Perhaps the most impressive thing was that they were willing to discuss what they did not know. I perceived no stonewalling, no mumbo-jumbo. These were careful analysts telling it like they believed it was. I think that is a positive point of departure as we talk about this whole issue of below-cost timber sales and the timber sale program.

Now, to better understand where we are going with regard to timber sales, it helps to understand where we have been. That really was the focus of my CRS study. I went through the history of the timber sale program, the importance of it, how it has evolved, the legislation that has influenced it directly, the laws that Congress passed that enabled the timber sale program to become a vehicle for a lot of things besides just selling timber, for example, building roads, environmental protection, and other things we have been hearing about for the last 2 days.

In the last 85 years, the Forest Service has sold over 456 billion board feet of timber having a bid value of over $20 billion. Despite all those sales and untold losses to fire, insects, and diseases, the Government still owns over 1 trillion board feet of timber. So, that is only 2 percent less than they had in 1950, by the way. They are going to be in the timber business for a good long time and in a big way. So, there is no getting away from that.

The point of this discussion of evolution and so forth is that timber sales have evolved with the blessing of Congress and with the approval of the public as a vehicle for accomplishment of numerous goals including the settlement and development of the frontier, the development of forests, taming the wilderness if you will which has become an issue with regard to whether we should stop doing that and leave some wilderness, and the issue of community stability. Once the promise of sustained yield provided the impetus for the development of timber dependent communities, the agency had to become concerned with preserving the stability of those communities, and that has become an issue and it has been discussed here. More recently, the use of timber sales to finance nontimber resources and environmental protection.

The result of all this is a very complicated and confusing situation. Again, my report gets into a lot of the details of how timber is sold, the appraisal process, and, believe me, it is very difficult to describe and to understand. I don't know very many individuals who understand the whole process although there are experts in each part of it that you can find.

Which brings us to below-cost timber sales. Below-cost timber sales are indicative of a problem, but it is not clear what the problem is. It is not even clear to me the extent to which we have below-cost timber sales. Nobody knows, and that is the issue with the accounting system.

Most of the discussion has been on cash-flow. The analyses have been done using bid values which are meaningless in terms of the final result. We should be talking about revenues that finally reach the Treasury, and we don't know that because it is not easy to get. The accounting system doesn't tell us. We don't follow sales all the way through and find out how much money actually was received from the purchaser.

For example, if we look at bid values, we have the 1981 sales that are now being bought back. Those won't be operated and those bid values don't mean a thing. It is not clear how much money we are eventually going to get from those sales.

So, what is the problem with below-cost sales? If we believe the Forest Service is truly in the timber business, they are indicative that the costs of the Forest Service are too high or that the Forest Service is operating in areas that are not economically feasible to grow timber in. If we don't believe the Forest Service is in the timber business, it is in some other business, maybe a social welfare business, then the issue with below-cost sales is that they are some means of paying for these other things, the other business that the Forest Service is in.

In fact, listening to the testimony over the last 2 days, there are people who believe all of these things, that costs are too high, that we are operating where we shouldn't operate, and that the timber sale program is paying for something else beside the timber business.

Now, I happen to believe that the Forest Service is in the timber business. And I believe Congress believes that also, or they wouldn't have come up with section 6(k) of NFMA that requires a test of economic suitability.

In my CRS report, the last chapter refers to something called the concept of timber business units, and I would very quickly want to emphasize that I am not proposing that the Forest Service act like a private company in the timber business. I maintain that once the planning is done, once lands have been allocated primarily to timber production which ought to come out of the planning process, that it just doesn't make sense not to operate those lands with cost control and with efficiency to produce something, the maximum amount of timber, the maximum amount of revenue, something, and do it efficiently. And let's recognize that we are in the timber business on those lands.

[The prepared statement of Mr. Beuter appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you, Mr. Beuter, and we thank you for your comprehensive statement which will be included in the record of these hearings.

Mr. Sample.

STATEMENT OF V. ALARIC SAMPLE, JR., GRADUATE STUDENT, SCHOOL OF FORESTRY AND ENVIRONMENTAL STUDIES, YALE UNIVERSITY

Mr. **Sample**. Thank you, Mr. Chairman.

Prior to beginning my current doctoral studies in the field of forest policy development and economics, I was the forester for the Wilderness Society here in Washington. While in that capacity, I authored a report entitled "Below-Cost Timber Sales on the National Forests," published by the Wilderness Society in July 1984. A copy of that report is before you and I have submitted that for the record.

I am a forester by profession and have served in timber management planning for the U.S. Forest Service and for major timber corporations in both the United States and in Europe.

In the year since the release of the Wilderness Society report, it and a number of other studies which used a cash-flow approach to identify areas with a history of below-cost timber sales have been subject to a number of misinterpretations. While I cannot speak for the authors of those other studies, I would like to reiterate and clarify certain aspects of my report for the subcommittee.

First, it was explicitly noted on page 1 of the Wilderness Society report that evaluating the economics of the timber sale program through an examination of past cash-flows is "not a substitute for more sophisticated techniques, such as net present value analysis." Nowhere in the report did I advocate that the national forest timber program be evaluated solely on a cash-flow basis.

The methods currently used by the Forest Service to determine economic suitability using net present value analysis are highly disputed and likely will be subject to litigation. Pending agreement on methods to be used in that present value analysis, a cash-flow analysis can point out areas and conditions in which below-cost timber sales may be a problem. In the meantime, cash-flow flow studies are a useful interim guide and will continue to be useful in focusing in on areas where more detailed analysis is warranted.

The land management planning process now being developed by the Forest Service is fairly well suited to accounting for and displaying both market and nonmarket values among alternative management scenarios. The law clearly requires that the national forests not necessarily be managed in the manner which will give the greatest dollar return, and I don't believe anyone is advocating that timber be sold only where it will result in an immediate cash profit.

The mission of the Forest Service is to promote and achieve a pattern of forest resource uses that will best meet the needs of the people, now and in the future. Accordingly, the forest planning process already contains the tools for assessing both the market and nonmarket benefits of management activities, and I believe it is the most appropriate forum for resolving the issue of below-cost timber sales.

The key to making this system work is to thoroughly measure both the increases and the decreases which would result from the proposed plan in the values of every important resource. Problems with this approach have arisen because many gains and losses to nonmarket resource values are difficult to quantify. Assigned per unit values for many are given in the RPA program, but increases or reductions in quantity outputs are difficult to predict accurately.

Actually, such detailed and precise analyses need be done only in situations where it is clear that the difference between the costs and the benefits is fairly close. I submit that for many situations, especially in areas identified in the Wilderness Society study as consistently having below-cost timber sales, the direct costs for such things as road construction are so much greater than the directly measurable market benefits that the nonmarket benefits would have to be very large in order to close that gap.

Even though nonmarket values are difficult to quantify and to predict, a reasonable range of values exists on which most parties can agree. If the nonmarket values needed to close the gap are outside that reasonable range, then it is probably safe to assume that the costs of roading and timbering the area exceed the benefits.

I believe such an approach would quickly get to the heart of the issue of below-cost timber sales. Although timber harvesting can enhance nontimber resources such as wildlife habitat and recreation, timbering in economically and biologically marginal areas can also degrade those resources more than it enhances them.

National forest users understand that, in the spirit of multiple-use management, some resource values often must be given up in order to achieve a greater overall value from the development of other resources. However, when citizens are forced to give up important nonmarket values so that timber can be cut at a significant financial loss, then they are much less willing to make that sacrifice. This, in my opinion, is the true bottom line in the below cost timber sales issue.

In conclusion, I believe forest planning, with its analytical tools and its opportunities for public participation, is the most appropriate process through which to resolve this issue. For the present, I don't believe any change in law or regulation is needed. The courts have yet to be called upon for their interpretation of NFMA section 6(k), and I believe the law supports the sort of approach that I have outlined.

If a solution cannot be worked out in forest planning and the issue is litigated, then Congress may have to respond to the decision of the court to see that the law reflects their current intent regarding the cost-effective management of the national forests.

I believe below-cost timber sales should continue to be a major policy concern, both to the Forest Service and to the Congress. Certainly, it is of concern to a great many citizens throughout the Nation. If it is not dealt with forthrightly and responsibly, I believe it could have as profound an impact on the Forest Service of the 1980's as the poor handling of the clearcutting issue had on the agency of the 1970's.

Thank you. I will be happy to answer any questions you may have.

[The prepared statement of Mr. Sample appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you, Mr. Sample. I think you have made a very significant statement.

I want to thank all of you, both for your oral presentation here today and for the more comprehensive statement that you have submitted. Again, I want to assure you and the rest of the witnesses that we are going to be studying that in detail in addition to our consideration of what you have said to us verbally.

Mr. Morrison.

Mr. MORRISON. Mr. Chairman, I would just like to add to your comment. In reading through the material you gentlemen have presented, I sense that you have, in your own unique styles, attempted to answer the questions raised in the charter for this hearing, and that will be the most important part of the consideration.

We are few in number here, Mr. Chairman, and I would love to ask a number of questions, but the day wears on.

I guess I have perhaps just a philosophical question for you, Mr. Wolf, since you know this industry pretty well inside-out. If we stay with the present system, when we run out of old growth timber in the Northwest, can the Forest Service support some of its current practices, many of them, of course, mandated by the Congress? Are we going to end up in a position where Congress is going to have to appropriate money to support the Forest Service unless we make significant changes in how they do cost accounting or in their practices?

Mr. WOLF. I would defer to John Beuter's more detailed expertise on the Pacific Northwest based on studies he has made, but my overall view is that the forests, particularly in the Douglas-fir region, but a lot of them in eastern Oregon and Washington, are some of our most highly productive forest lands in the United States and that they are capable of producing more wood than they are now producing without a significant sacrifice of nonmarket values and that the management has not identified those areas and concentrated on getting those areas yielding their best benefits.

I would think that the public forests, and I would include the BLM land in western Oregon, are highly productive lands and could have at least their current output and a somewhat higher output over the long run on less acres. I don't think that all the acres need to be in the calculus of sustained yield.

So, I would think that it is certainly feasible, and not only in the Pacific Northwest but in other parts of the country. Not in all of them. In the Southeast, it is true on those national forests. Many of them have high potential.

I speak as a professional forester, and this is my own observation, but I don't think as foresters we have been as discriminating as we should be as to which lands we ought to be doing what on. We sort of think that every acre ought to have something done to it, and I used to feel that way. I will have to admit my thinking has changed on that. There are just some lands we just ought to let nature take care of with a minimum of investment and activity, and there are other lands that we ought to intensively manage and do it fairly significantly.

Congressman Smith raised the issue when he talked about the Public Land Law Review Commission. The Commission recommended dominant use. That brought hackles from all sorts of people, conservationists as well as nonconservationists, because the term itself was valuated and scared a lot of people. The agencies didn't like the idea.

The Multiple-Use Act of 1960 really was an effort by the Forest Service to have the Congress say to it under law, you are supposed to do all these things enumerated here. Some of them had not been enumerated in law, such as the responsibility for recreation and grazing and wildlife, and that the Forest Service would figure out how the allocations could be made.

You have to remember, by 1960, the proposal for a wilderness bill was 4 years old, and it was being bitterly contested. What we had flowing out of that argument was a schism which has persisted to this very day in the debate over wilderness versus nonwilderness. I know, because I worked with Senator Humphrey on the Resource Planning Act, it was his hope that by developing that process there would be a way of adjudicating these differences in making these allocations under the Multiple-Use Act in a way that was socially acceptable. To me, the big disappointment is that we haven't been able to achieve it.

Mr. **Morrison**. There is always a tendency on the farm to plow every acre you can instead of just the most productive acres. Thank you.

Mr. Chairman, that is all the questions I would have.

Mr. **Whitley**. Thank you, gentlemen.

Our next panel is comprised of Mr. John V. Krutilla, Mr. Doug Rideout, Mr. David Jackson, and Dr. Glenn Petry.

Gentlemen, you may submit for the record whatever written statements you may care to do, and we would ask you to summarize in about 5 minutes your oral presentation for us here today, and we will begin with Mr. Krutilla who is a senior fellow at Resources for the Future. We would be glad to hear from you at this time, Mr. Krutilla.

STATEMENT OF JOHN V. KRUTILLA, SENIOR FELLOW, RESOURCES FOR THE FUTURE

Mr. **Krutilla**. Mr. Chairman, Mr. Morrison, my name is John Krutilla. I am a senior fellow at Resources for the Future which is a private, nonprofit foundation engaged in research and education in the field of natural resources and the environment. My comments will relate to the below-cost sales issue.

In a multiple-use forest management environment, timber sales below cost do not necessarily indicate an economically unjustified timber harvest. Nor do timber sales below cost in a multiple-use environment necessarily indicate that the harvest was economically justified. The critical consideration is that timber receipts plus multiple-use benefits must equal or exceed management costs, and the answer will depend on the particular circumstances surrounding each case.

Hence, the issue is an empirical issue that cannot be resolved except by appropriate quantitative analysis. It will involve a study of the value of unpriced resource services as well as the value of timber harvested along with a rather specialized analysis of management costs.

Because timber in the multiple-use management regime bears more than a superficial resemblance to power in a multiple-purpose river project—in that both are looked upon as paying partners of jointly produced vendible and nonreimbursable resource services—it is useful to review the experience of estimating the cost of power in a multiple-use water project. If the experience in the water field will serve as a useful model, it will be especially useful since the Congress has sanctioned the method of valuation and cost allocation used in the water resources field for nearly half a century.

In multiple-use management, whether water or land, the regime implies some interdependencies. These will involve jointly produced outputs or services like power, flood control, or navigation in the water case, and timber, wildlife, recreation, and others in the land management case.

Other interdependencies are not between outputs, but rather between one site and another. Here we can visualize a storage reservoir with little developed head and downstream a run of river project with substantial head and no significant storage. It may be that neither one standing alone would justify construction, yet the combination may be undertaken economically.

Similarly, in the forest land management case, a harvest may produce timber and forage for wildlife, but the latter is dependent on how the surrounding sites are being managed, because for most ruminants, ready cover is required before the forage is efficiently cropped.

To this point, the forest land and river cases are parallel, but there is one aspect of land management not encountered in the water projects. That is the factor of growth or change over time that affects the forest site that does not occur with a dam site. Although the function of a hydrodevelopment might change over time on rare occasions owing to external circumstances, the role of a forest site will change as the harvest site will initially provide timber, then forage, later on cover, and even later perhaps cover and hard mast, as it ascends upward in age class before it is harvested again.

This changing character of a site due to biological growth has some implications for the below-cost timber sale issue. One needs, not only the value of the harvests from the site, but also the value of the resource services the site provides throughtime in between the harvests. The value of the services from any given site, howevdepends on the way in which the other sites in the area are anaged.

This complex of interacting sites makes estimating the economic onsequences of a harvest from any single site extraordinarily difficult. Indeed, it is safe to say that it cannot be done with the resent state of the arts analysis and information. We cannot perorm the kind of analysis on a given woodland site that will resemle in accuracy the results we have been able to obtain satisfactori- for dam sites.

If we cannot do that, what can we do? One possibility is to redeine the accounting unit from a timber sale area to a management nit of sufficient size and characteristics to contain the vast bulk of he site interactions, and to reduce spillovers between management nits. A drainage of appropriate order would very likely qualify for his purpose. The prescription for management of the entire unit ould then be subjected to analysis to determine whether the proram as a whole, when observing efficiency criteria, would be justiied economically.

This is what is being attempted in the current round of forestevel planning efforts. One modification in the treatment of costs in he current planning procedures, however, would be required, and hat is to replace the current classification of costs to more propery reflect common and separable costs so that any element, but articularly timber, could be evaluated with results good to a first pproximation.

To conclude, the kind of information that we could expect from lanning level efforts would not resemble current accounting conepts, precision, and detail. Partly, this has to do with the use of ccounting to report on completed transactions during the year, hereas planning data deal with intended expenditures and expectd results.

Planning data here have the characteristics of budgets rather han accounts. That is, they deal with prospective results, while acounting deals with realized result. Yet, I cannot visualize how an ccounting framework that intends to report on timber receipts nd the value of nonpriced resource services in terms of the curent accounting concepts, precision, and detail, by individual imber sale, can be implemented at any reasonable costs, if at all.

Thank you.

[The prepared statement of Mr. Krutilla appears at the concluion of the hearing.]

Mr. Whitley. Thank you, Mr. Krutilla.

We have a recorded vote over on the floor. I don't believe we will e able to finish this panel prior to that vote, Mr. Morrison, so I elieve we will recess and return in approximately 20 minutes.

[Recess taken.]

Mr. Whitley. The subcommittee will resume its consideration, nd at this time, we recognize Mr. Doug Rideout, professor of forest nd wood sciences of Colorado State University.

Mr. Rideout.

STATEMENT OF DOUG RIDEOUT, PROFESSOR, FOREST ECONOMICS, DEPARTMENT OF FOREST AND WOOD SCIENCES, COLORADO STATE UNIVERSITY

Mr. RIDEOUT. Thank you.

My name is Doug Rideout. I am a professor of forest economics at Colorado State University where I teach advanced and intermediate forest economics as well as forest policy and analysis. I also teach financial analysis of multipurpose forest industry investments to Forest Service personnel throughout the Rocky Mountain region. I have also taught statistical analysis including experimental design and multiple regression analysis.

My research has focused on timber supply economics throughout the Western States. Recently, my work has had particular focus on timber supply issues in southeast Alaska and in the Rocky Mountains, two areas where the sales below-cost issue is perhaps most prevalent. Most recently, my research efforts have been directed at developing the basis of a multiproduct cost accounting system appropriate for public multiple-use forestry with specific application to the sales below-cost issue.

Previous work on the efficiency of public agencies has shown that generally they can be expected to be as efficient as they are accountable. The U.S. Forest Service does not appear to be an exception. The current sales below-cost controversy merely highlights the need for public accountability in forest management. Already, preliminary evidence from the Rocky Mountain region suggests that more cost effective decisions are being made because the agency now knows that the cost data that it is using and implementing may be in the public eye.

The sales below-cost issue also highlights the kinds of attributes that a well designed cost accounting system should and should not include. First, simple cash-flow analysis including cash in and cash out in a given year has little economic meaning. A negative cash-flow for a particular year simply indicates an appropriations or budgeting problem which is distinguishable from an accounting problem and especially distinguishable from issues of economic efficiency and management.

Two, a timber sale that is below cost, as Dr. Krutilla mentioned, is not necessarily an economically inefficient sale. On the other hand, a sale that is above cost is not necessarily economically efficient, either.

The major technical factor that must be explicitly recognized in any sensible evaluation of the accounting problem is the nature of joint production in public forestry. The economic and accounting difficulties associated with joint production are not easy. Joint production is characterized by costs incurred to produce multiple products from a common resource. A common forest land acreage may be associated with production of timber products, range, water products simultaneously. This poses a difficult accounting problem because not all costs can be directly attributable to the individual products.

For any meaningful analysis to occur, either all benefits must be compared with all costs, or costs must be separated or sorted by program or resource categories so that cost comparisons with the edible benefit data that is available can be made. In this endeavr, it is critical to distinguish between joint and separable costs.

Recognizing that some forest benefits are difficult to measure, me are exceedingly difficult to measure, and according to the .S. Forest Service in 1985, some are not measurable at all, we at olorado State University [CSU] began a lengthy research of cost rting and accounting processes appropriate for public multiple-se forestry. Cost sorting allows separable costs to be compared ith the benefit data that is available and that is credible.

We designed at CSU, with two people and a modest budget, the asis of an accounting system that accomplishes the following:

It keys in on the multiple-use aspects of public forest manageient. Estimates of nonmarket benefits may be used, but they are ot necessary, and we don't think that an accounting system hould be hung up over controversy of nonmarket values, some of hich there is great debate over.

It sorts costs by resource program or benefit category. It makes he crucial distinction between joint and separable costs. Separable osts are all allocated to their appropriate categories, and joint osts may be allocated in a variety of ways, because their allocation s well known as being economically arbitrary. Equity criteria may e used, and we have suggested some.

It performs amortization of road and other kinds of capital exenses.

It has the ability to distinguish between dominant products, co-ominant products, and subordinate products, a crucial distinction n most accounting endeavors.

The cost accounting allocations are performed in a manner conistent with multiple-use objectives. Resource programs are in esence by our accounting system given an incentive to cooperate and roduce in an efficient manner. In the event of increasing costs here separable instead of joint production technologies are aplied, our cost accounting system conforms with economics in the ense that it reduces to marginal cost pricing.

Our cost sorting and allocation methodology has been fully prorammed for use on modern computer systems. The operator outines the structure of the problem. The program tells the operator xactly what cost information is required so as not to waste the oprators time. The operator inputs the relevant data, and the proram determines separable costs, joint costs, possible allocations, ncluding amortization which, I might mention, is basically an alloation problem with respect to time.

We have and are applying the model to below-cost sales in the tate of Colorado with considerable success. Applications are demnstrating that the cost accounting and allocation problem is one hat is manageable, one that can be performed well in a meaningul way consistent with sound economics. We found that it takes bout 4 hours for us to interview people on a timber sale to acquire he relevant data and about 2 to 3 days for us to process the data.

Mr. Chairman, my research has demonstrated that with a team f two and modest resources, an economically sound and viable cost ccounting may be performed on national forest management inluding timber sales. Clearly, the accountability problem is mangeable and may be performed in a manner consistent with sound economics. It will, however, require a recognition by the Congress and the agency that additional cost data is necessary in order to do the job properly. Existing data will not distinguish between joint and separable costs.

The importance of the accounting issue as exemplified by the timber sales below-cost issue is of immense importance to the public, and many await the results of the accountability cost accounting performed by the Forest Service in fiscal year 1987. For the agency and the public, we think the stakes are high, that these issues are not going to go away until a well designed accounting procedure is going.

[The prepared statement of Mr. Rideout appears at the conclusion of the hearing.]

Mr. WHITLEY. Thank you very much, Mr. Rideout. I am sure we agree with your last statement.

Our next witness is Mr. David Jackson, a professor at the School of Forest Resources at the University of Montana.

Mr. Jackson.

STATEMENT OF DAVID H. JACKSON, ASSOCIATE PROFESSOR, FOREST ECONOMICS AND MANAGEMENT, SCHOOL OF FORESTRY, UNIVERSITY OF MONTANA

Mr. JACKSON. Thank you, Mr. Chairman, and members of the subcommittee.

My name is David Jackson. I am an associate professor of forest economics and management at the School of Forestry, University of Montana.

Given the lateness of the hour, I would like to summarize my written testimony very briefly, as follows:

In a memo of April 19, 1985, titled, "Timber Sale Economics," Tom Costin, regional forester in charge of the Forest Service region 1 issued the following order to forests in Montana and northern Idaho:

> When accessing areas of anticipated low or negative sale return, you should reevaluate our general guide of maximum initial development, which results in high initial cost and long-term investment.

The maximum initial development mentioned in the memo refers to the development of a transportation system into previously undeveloped areas and is, I believe, at the very center of the below-cost sales controversy. Maximum initial development often means that miles and miles of road are constructed past perfectly good timber in order to bring an area under management.

The apparent shift in policy is extremely important to the below-cost sales issue because it recognizes the following key points:

One, the national forests have been engaged in a policy to develop roadless areas as rapidly as possible;

Two, this rapid development policy can cause below cost sales; and

Three, the maximum initial development policy will be put aside only on the sales with terrible returns. This means the national forests are still willing to absorb unnecessary losses or opportunity costs on other sales in order to rapidly develop roadless areas.

The written testimony I have submitted briefly describes the social and political events that helped create the below-cost timber sales issue. The issue has grown out of the turmoil of the last 20 years surrounding the use, development, and preservation of national forest lands.

Following the discussion of the evolution of the problem, the testimony outlines what a below-cost timber sale is and how accelerated roading contributes to below-cost timber sales and immense financial losses in national forest land management. A below-cost sale is one in which direct Federal receipts are less than the expenditures associated with the preparation, administration, and development of a sale.

Accelerated roading is a policy that directs timber sale planners to locate sales in areas to be roaded as far away from existing roads as possible so that whole drainages are brought under management. Road construction expenditures are maximized in early budget periods. Forest Service research done 15 years ago showed that accelerated roading is a poor investment. The research was apparently ignored for the past 15 years.

Some of my own research shows another cost of accelerated roading. The Forest Service policy directs sale planners to develop sales large enough to cover development costs. Sales with accelerated roading projects will be larger than those without much road construction.

My own research in Montana looking at national forest sales indicates that the large, complex, development oriented national forest sales typically entail more logging costs and more costly logging systems, more purchaser road credits, and high temporary development costs than the small sales. Fewer firms bid on these sales and they sell for lower prices.

Thus, accelerated roading or maximum initial development not only means excessive road construction costs but also lower timber prices. The price of national forest timber in Montana and Idaho is one-half that of timber sold on State lands and national forest timber in Washington and California sells for $100 per thousand board feet less than State timber in those lands. My Montana study indicates that the large development-oriented sales receive lower bid prices than the small sales, and this therefore contributes to these price differences.

The fundamental cure for below-cost sales is somewhere in between preservation and subsidized destruction of the environment. It is, in fact, better forest management.

In summary, my conclusions and recommendations are as follows:

One, the below-cost sale issue is largely the result of a conscious choice to treat timber sales and roads as strategic development decisions instead of prudent investment choices;

Two, the sales below-cost problem can be eliminated without revising forest plans that are nearing completion. It requires much better analysis and planning of intermediate transportation systems in timber sales;

Three, the Congress can help immensely by resolving the roadless land questions through a combination of wilderness designation and release legislation. This will reduce the bureaucratic incentives to make land use decisions through road construction;

Four, while the need for economic analysis is liberally mentioned throughout RPA and FMA, the Forest Service appears confused by the importance of this legislative thrust. Therefore, I think it important to clarify what the Congress means by economic analysis.

In the context of decisionmaking, economic analysis usually implies efficiency analysis and a balancing of nonmarket with market costs and benefits over time. This is usually referred to as social efficiency or simply economic efficiency. If this was the intent of Congress in the amended RPA, I think it should be clarified by adding a brief entry to section 2 that might read as follows:

> It is the policy of the Congress of the United States that social efficiency is the guiding principle of national forest management.

Thank you.

[The prepared statement of Mr. Jackson appears at the conclusion of the hearing.]

Mr. **Whitley**. Thank you very much, Mr. Jackson.

Our final witness of the day is Dr. Glenn Petry, a professor of Washington State University.

Dr. Petry.

STATEMENT OF GLENN H. PETRY, PROFESSOR, FINANCE AND ECONOMICS, WASHINGTON STATE UNIVERSITY

Mr. **Petry**. I hope that is not last and least.

Could I ask a question before I start? Do you have a copy of my testimony? There is an outline of major points that I am going to cover, and if you have that in front of you, it would make it very easy for you to follow my testimony.

Mr. **Whitley**. Yes.

Mr. **Petry**. I would only look at the first page. I wouldn't look at the rest of it, so it will help you.

My name is Glenn Petry. I am a full professor of finance and economics at Washington State University. I want to emphasize I am speaking for myself and not for that institution.

As a way of background, I have published about 60 articles and grant reports, including quite a number in the area of fishery economics, some for the National Marine Fisheries Service, the Pacific Northwest Regional Commission, and the National Oceanic and Atmospheric Administration.

If you follow the outline that I have there on the first page, let me make some points. There are two main points that I want to make, and then I will get into specific cases.

First of all, much of the procedures that the Forest Service follows I think lacks objectivity in showing benefits and costs of timber and grazing versus recreational and scenic wildlife, particularly on the cost side. I think they are very remiss in terms of coming up with an accurate assessment of costs.

The second major point is that many off-site costs are omitted by the Forest Service.

Now, let me get into each of these two main points. First is lack of objectivity, and let me give you a case in point here. On the Clearwater National Forest in the Cedars unit in north central

Idaho—it is on the Montana border so it is right between Montana and Idaho—they did a draft environmental statement. It is an area of about 105,000 acres, and I have the statement here. May I enter this in the record?

Mr. WHITLEY. Without objection, it will be received.

Mr. PETRY. Thank you.

There are four things that I would like to cite to indicate their lack of objectivity. There are about 12 that I found in the study. The first is they have cited a significant hydropower benefit. I am not convinced, based on the style of the cuts that they put in there, that there was much benefit there at all in terms of not having a problem with reducing summer flows, but there are some other issues I want to speak to in their taking the hydropower benefit.

First of all, they are going to increase peak flows. I agree that generally it does increase peak flows, but the thing is that it does increase erosion. It does increase the debris that goes into the reservoirs. Both of those have a cost. The reservoir has reduced hydroelectric storage capacity, and they have a contract to remove the debris from the reservoir.

But there are two other things that I think are more significant in this particular case. One is that they spilled water on many areas in this particular reservoir indicating that extra spring runoff is of very little value.

The second, and this is a very, very important point and has to do with the general issue of taking hydropower benefits in general. If you have a downstream reservoir that is going to contain the water, then maybe you can claim it as a benefit. But if the Forest Service is going to take a benefit from logging, then they also should take a cost whenever they don't have a reservoir down there, because what they are saying is that logging contributes to flooding. It raises peak flows. It may only increase the peak flows by 5 or 10 percent, but it may increase the flood damage by 50 or 100 percent. So, they have to be consistent about this point. I have never seen a study where they have admitted to flooding damage.

The second major issue I want to deal with in this study was that they claimed for each timber job created there were 2.4 secondary jobs created for people in grocery stores and so forth. I called the economists at the University of Montana. They said in this particular area it was more like one-half or 0.5, which indicated that they had inflated the secondary job creation by about 400 percent.

The third one, and this was a real puzzler, at the time that the plan was looked at, at the time they came out with the plan, two-thirds of the roads in this particular unit were high cost timber roads. In other words, the principal reason for putting the roads in—the roads were there already, the existing roads—was for timber. So, two-thirds of them were high cost timber roads.

The plan was to triple the logging in the particular unit and, magically, they came up at the end, three-quarters of all the roads were high cost recreation. Now, that is a mystery to me. You start off with an area that is primarily timber, and you triple the logging, and suddenly they become recreation roads, which I find quite interesting.

But here is the kicker in this whole study. Despite all the manipulations, and I have only shown you 4 examples here and there were about 12, the highest benefit cost alternatives—there were 7 alternatives in this plan, from very little logging to very much logging—the highest benefit cost ratio in this study were the least logging alternatives, even after all the manipulations.

Now, they also omitted costs. This is the second major point I am making here. Not just in this plan but in other plans, the Forest Service omits costs. I am going to mention 6 out of 12 that are in my testimony, and these have to do with both logging and grazing because they contribute both, as well as mining.

Let me cite the case. The first point is in Lewiston, ID. There was a significant problem developing because of the substantial erosion that was occurring. Now, the Snake and Clearwater Rivers meet at Lewiston, ID. Sixty percent of that land is being drained from Federal lands, so the Federal Government is contributing substantially to the siltation in that area.

At Lewiston, ID, the Corps of Engineers estimates that there is 2 million cubic yards of soil coming down there annually, which is a lot of soil. A good part of it is ending up right in front of Lewiston. They are having two problems. One is that the reserve that they had for minimizing floods is being eaten up. In another 10 years or so, they are going to have a real problem with floods because it is filling the channels.

The second problem is that right now, and this is a danger that is occurring right now, they have restricted use of the ports because they have so much soil in there, they can't bring the deep water barges in from the ocean, from Portland.

I asked the Corps of Engineers, what is it going to cost to solve the problem? They were kind of reluctant, and I want to be honest about this, to give me a number. But what they told me was this. They said, if we remove all the soil, it is going to cost about $50 million to get rid of the soil that has built up. There are other alternatives, but most of those are going to cost $10 million and above. And I said, OK, once you have got this back and reduced the problem, what is it going to cost annually then, and they said $4 million.

These costs are never addressed in Forest Service plans. I guarantee you that their plans, their logging, their grazing activities, do contribute to this erosion. Now, in honesty, there is some natural erosion there. I don't want to pretend there isn't, but some of this is because of poor logging practices, areas that should not be logging or grazed to as much of a degree as they are.

The second cost is loss of hydroelectric storage capacity. The silt is coming in. It is reducing the storage capacity of the reservoirs. This is not in their costs.

Third, the costs of adding to peak flooding damage—I have already mentioned it increases peak flows. I agree with them, but they don't assess costs in places where they don't have a reservoir to back it up.

Four, the cost of hatcheries to replace fish loss—in our area, we have a lot of salmon and steelhead. The slough will come down. It smothers the eggs of the wild salmon and steelhead. You lose the fish, so you have to have hatcheries to replace them. It also increases sediment in the river.

Five, loss to recreational and commercial fishing and businesses selling to them. The water is silted up. You can't fish it. You also have killed a lot of the fish. It also raises the stream temperature which kills the fish.

Six, is cost of stream gravel cleaning in fish spawning areas.

Let me quickly just mention what I would see as the remedies that I would suggest. First of all, I think you should be very careful about looking at below-cost sales. I think there is no reason why you shouldn't stop below-cost sales in environmentally sensitive areas, because some of these costs are quite substantial and they don't own up to them. In fact, I would advocate that you have a reserve of 10 percent. If they don't meet costs plus 10 percent, I think I would be inclined to stop them especially in areas that have a lot of erodable soil, steep hillsides, and where there is a lot of environmentally sensitive areas.

One of the things you could do is reduce the capital investment road program. We already have 4½ years' worth of roads where they have already sold the timber. They have the roads in. There is no reason why they need to have the enormous capital investments in new roads. It is just going to sit there. We are going to have standing roads. We are going to have to maintain them. It is an enormous waste of money.

The second suggestion I have is that I think you need a whole new look at the benefit cost study. The Forest Service, I know, is working on a new accounting system, but as far as I am concerned, that is like asking the Pentagon to solve the budget waste problems in the Pentagon. You are asking the Forest Service to do it, and I think you need some independent people to look at what they have done and to get all the costs they can.

I don't think, personally, you have to address every cost and say every little flower or anything has a cost to it. I think you look at the major costs and you develop some sort of grid that says, OK, here is some sort of matrix that looks at all these others. If the revenue doesn't exceed costs, we look at this other matrix and we make decisions based on how bad it is.

Thank you.

[The prepared statement of Mr. Petry appears at the conclusion of the hearing.]

Mr. WHITLEY. I want to thank all four of you gentlemen from the academic community—you sort of sewed it all up for us—and all the other witnesses who have appeared in the last couple of days. Again, I know I can speak for Mr. Morrison and all the other members of the subcommittee who have participated in these 2 days of hearings in assuring all of you that we intend to address this problem seriously and impartially with a very dedicated effort to see if we can't adjust both the accounting and the procedures that we are dealing with here to the end that the matter of below cost sales is adequately addressed from a policy standpoint.

Mr. Morrison, do you have any closing comments?

Mr. MORRISON. Mr. Chairman, I know you have an airplane to catch, and we have had a couple of days, I think, of very fruitful hearings.

I would love to ask this last panel a lot of questions, but I think for the sake of time we will not. In fact, I find when I read your actual statements all the way through, I find answers to many of the questions that I have.

So, Mr. Chairman, thank you and, again, my appreciation to all our team of panelists during these last 2 days.

Mr. WHITLEY. Thank you very much.

The subcommittee stands adjourned.

[Whereupon, at 5:07 p.m., the subcommittee recessed, to reconvene subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

STATEMENT FOR THE RECORD

OF

RICHARD G. REID
EXECUTIVE VICE PRESIDENT
INLAND FOREST RESOURCE COUNCIL

ON BEHALF OF

INLAND FOREST RESOURCE COUNCIL
AND
THE NATIONAL FOREST PRODUCTS ASSOCIATION

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I. INTRODUCTION

Good morning. I would like to thank Chairman Whitley and other members of the Subcommittee for inviting me to testify today. My name is Richard Reid. I am Executive Vice President of the Inland Forest Resource Council (IFRC). I am here today representing both the Council and the National Forest Productions Association (NFPA).

IFRC is an association representing manufacturers of solid wood products in western Montana and northern Idaho. Our industry in this region processes an average of 2.5 BBF of wood products each year. The timber industry accounts for the biggest share of the economic base of western Montana and northern Idaho. All of our members are either partially or wholly dependent upon the National Forests as a source of supply for raw materials.

NFPA is an association representing over 2,000 companies involved in manufacturing solid wood products. This industry provides over 700,000 direct jobs and many other indirect jobs. Many of NFPA's member companies are also dependent, to some degree, upon the National Forests for of their raw materials.

The issue about the profitability of the Forest Service timber sale program is important to all parts of the forest products industry -- large and small; East, West, South, and North; public and private. About 26% of all timber consumed in the U.S. comes from federal lands. Thus, we have a strong interest in any matters which might affect the supply and availability of publicly owned timber.

Critics of the Forest Service timber sale program have claimed that a substantial portion of these timber sales cost more to prepare and administer than they return to the Treasury. Some have suggested that sales levels should be reduced if Forest Service costs exceed stumpage receipts.[1] Obviously, this issue is of great concern to all of those who depend upon public timberlands as a source of their livelihood. We are grateful for the opportunity to testify today because we feel that there are some elements of this issue that have been ignored or underemphasized in the debate thus far and particularly in the testimony yesterday.

---

[1] At the outset we need to distinguish between what has come to be known as "below cost sales" and what we, the Forest Service, and others commonly call "deficit sales."

Below cost sales are those where the costs of timber management are greater than the immediate cash return from the sale of timber. A deficit sale is one where there is insufficient value in the timber to cover the costs of producing the finished product and provide for 75% of the normal profit margin to the purchaser. In other words, the below cost sale denies profit to the government and the deficit sale denies profit to the purchaser

II. BACKGROUND

In 1980, the Natural Resource Defense Council published a study which claimed that the Forest Service was losing money on its timber sale program. These claims went largely unnoticed by Congress and the general public. By 1984 increasing federal deficits and the provisions of the compromise release language on the wilderness bills created both an economic climate more favorable to such claims and a political vacuum which they could fill.

In 1984 there were four analyses of the profitability of the Forest Service timber sale program -- three by various arms of the Congress (House Committee on Appropriations, Congressional Research Service, and General Accounting Office) and one by the Wilderness Society. They all came up with essentially the same conclusion. That is, there are national forests with below cost tibmer sales when measured on a short-term, cash flow basis.

Unfortunately, none of these studies come up with the same numbers, and they all used different analytical techniques. They only confirmed that there were regions and national forests that had a negative cash flow from their timber sale programs, but the extent of that loss could not be precisely defined. Much of the problem had to do with the form of the basic data obtained from the Forest Service for the analysis. Before the House Appropriations Subcommittee on Interior and Related Agencies last year, the Forest Service admitted that its accounting system was inadequate to determine the financial condition of the timber management program below the national level.

Mr. Sitts will describe some of the reasons that these studies provide inadequate and conflicting information. Other witnesses will speak about other technical aspects of the issue which must be considered. At this point, let met just say that it is our view that there is not sufficient information about the costs and benefits of the timber sale program to support any major changes to the statutory authority under which the program is administered.

In spite of the lack of adequate information, this issue has resulted in widespread discussions about the timber sale policies of the Forest Service. Some suggest a re-examination of policies which prescribe how, when, where, and how much timber should be sold from the national forests. Some have questioned whether the existing multiple use mandate precludes unprofitable management activities (at least for market outputs) and whether a new mandate is needed. Some have suggested that the government should shift economic support of local communities from resource development programs to direct payments. Others view this issue as a continuation of the wilderness debate. Still others have used the issue to talk about the relationship between public and private timber supplies. The malleability of the below-cost sales issue to fit around any policy topic of interest to anyone is at least indirect evidence that it is serving some people as a surrogate for other concerns.

III. INDUSTRY POSITION

As indicated, the timber industry believes that the cash flow analyses described above do not provide adequate information to support substantial changes to the timber sale policy. The Forest Service is making a good faith effort to create an accounting system which will identify the appropriate costs and benefits of the timber sale program. Until this effort produces a better picture of the costs and benefits of the sale program, efforts to address policy questions are at best premature and at worst an attempt to use inadequate information to argue a case quite different from whether the Forest Service is making sound investment decisions.

Once good information about the existing situation becomes available, Congress will be in the proper position to discuss relevant policy questions such as:

(1) How should the profitability of the Forest Service timber sale program be evaluated in light of the existing laws governing management of the national forests?

(2) Should the existing mandate be changed to reflect current fiscal realities?

(3) Are there valid reasons to offer sales judged to be unprofitable from a short term, cash flow standpoint?

We still have not answered the first question. The industry believes that the recent cash flow analyses are inadequate to answer this questions and cannot be used as a basis for making substantial changes to the timber sale program.

Until there is agreement on the proper measuring stick, and until a system is in place to create those measurements, we will all have to be patient. For our part, we will refrain from caustic comments about the short term profitability of the other multiple uses. In the meantime, we urge the Forest Service to move forward with efforts to reduce timber sale costs where possible, and urge others to become involved in the Forest Service Timber Sale Accounting System study.

IV. INDUSTRY PANEL

I would like to introduce the other members of the panel and their topics:

- Jim Sitts will talk more about the cash flow analyses that have spawned the current controversy.

- Dick Wilhite will speak about the effects of the market on this issue.

- Jim Craine will talk about what information the Forest plans can and will provide.

- Steve Bennett will talk about how the South differs from the West in the context of this issue.

On the second panel:

- Dick Malburg will provide us with a Lake States perspective on the issue.

- Greg McGuire will explain how the Forest Service's multiple use mandate affects management costs.

- Pete Himmel will outline how the Forest Service can enhance revenues by reducing purchaser's costs.

- Mike Welling will talk about some work he has done to help the Forest Service reduce its own costs.

- Jim Riley will conclude by making some specific recommendations for the industry.

Finally, for the record I am submitting responses on behalf of NFPA to the questions that the Subcommittee included in the hearing charter. The following witnesses will touch on these questions in their testimony.

RESPONSE FOR THE RECORD
OF THE NATIONAL FORESTS PRODUCTS ASSOCIATION TO
ISSUES AND QUESTIONS

1) Briefly, how do you define "below-cost" timber sales, and what are the implications of the definition on how many sales are placed in the "below-cost" category?

For the purposes of general discussion thus far, "below-cost" sales have been defined by many as those sales where the Forest Service's cost of preparing and administering the sale (including road construction) are greater than the timber receipts to the government. Such a definition measures only short-term cash flow, or the short term profitability of individual timber sales -- a measure of program efficiency that has never been required of the Forest Service.

By contrast, the Forest Service's multiple use mandate requires the agency to manage the national forests so that they are utilized "in the combination that will best meet the needs of the American people ... with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." Thus, assessing whether sales result in total benefits exceeding total costs over time would provide a more accurate reflection of the direction Congress has provided the Forest Service to date.

Such a definition will require more accurate display of both costs and benefits that are not now quantified. The Forest Service is currently attempting to devise a system to, among other things, do a better job of this.

If we are to evaluate the agency's management efficiency in light of the statutory mandates now in place, we believe that the Forest Service must be allowed to complete this exercise. At that time we can: (1) assess whether the agency has accurately ascribed costs and benefits to different elements of the sales program; and/or (2) review those sales where -- even under an accounting approach that more closely reflects the Forest Service's mandate -- costs outweigh benefits.

If, on the other hand, we are not willing to wait until the agency completes its on-going review, the more appropriate question is whether we wish to modify the Forest Service's statutory direction in order to economically screen sales or emphasize the need to generate a positive short term cash flow to address the "below-cost" sales problem as it has been defined by the agency's critics. We do not believe it is useful to provide alternative definitions of "below-cost" sales until we have a better understanding of the component "cost" and "benefit" parts of the term.

2) Do you believe the arguments presented ... by the Forest Service adequately address the concerns raised about below-cost sales? What comments do you have on why this should or should not be a major policy concern?

In our view, the Forest Service has accurately described, in a general sense, the other resource, environmental, and statutory considerations that should be balanced against the present concerns over the short-term profitability of the timber sales program or of certain timber sales. To our knowledge, no one is denying the existence of these other considerations, or suggesting that they are not an accurate reflection of public concern at the time they were framed for the agency by Congress. We think that the Forest Service could do more to quantify and estimate the magnitude of these factors in the forest planning process.

Congress has recently asked the agency to attempt to: (1) assign costs to the constraints on making sales more profitable; and (2) quantify some of the market and non-market benefits that are currently ascribed to the sales program. We agree with the agency and others that some elements of this will be very difficult. However, we are not convinced that it is an impossible task. Much depends upon the degree of resolution that Congress demands in quantifying non-market benefits.

Beyond this, the Forest Service is making some progress in: (1) reducing agency overhead and program costs that are not dictated by statutory requirements; and (2) using the forest planning process to provide a better description of the agency's long-term timber and related resource management goals in areas where timber sale costs have been greater than receipts in the recent past.

More can be done in both of these areas. As we see the present policy concern, it should be focused on how well the Forest Service performs the above three tasks.

3) The Forest Service has stated that "the issue of below-cost sales is not primarily an accounting problem." Do you agree? What is the primary problem that creates these below-cost sales?

We believe that, at this juncture, the below cost sales issue is primarily an accounting problem. The Forest Service has been charged with the responsibility to evaluate alternative accounting and cost allocation techniques to provide the analytical tools to more intelligently assess the costs and benefits associated with both individual timber sales and the program as a whole.

The Chief's answer that it is not an accounting problem appears to be a matter of semantics. He said that "the real question in areas with below cost sales is whether or not timber sales represent the most cost-efficient way to achieve forest management objectives." This management question cannot be adequately addressed until the agency is able to display the costs and benefits associated with its objectives. This is an accounting problem.

However, the Forest Service is correct in suggesting that a better accounting system will not resolve all of the concerns being raised over the timber sales program. Many of these concerns spring from more fundamental reservations about the use of the national forests as a source of timber supply to meet national demands. As indicated, the agency has generally described the "problems that create these below-cost sales." The next step is to better quantify these "problems," and then decide which we wish to evaluate further in the context of modifying the Forest Service's present statutory direction.

4) To what extent can the issue of below-cost sales be resolved by developing better cost accounting procedures? Can you specifically list what costs and benefits should be identified in a timber sale accounting system? Are we justified in spending a substantial amount of tax dollars on developing this new accounting system? Please comment on the alternatives now being considered by the Forest Service for its accounting system.

As stated above, the development of a better accounting system is a necessary first step toward a better understanding, and hopefully a resolution, of this issue. Mr. Riley's statement provides the industry's views on the principles that should be incorporated in a new accounting system.

If we are to continue to discuss the profitability of the Forest Service's timber sale program, the money spent to develop a new accounting system is an expenditure that is necessary to advance the inquiry. Finally, we have not yet submitted formal comments to the Forest Service on the alternatives for its accounting system. NFPA will offer such comments in the near future, and will submit these to the Subcommittee for the record.

5) Section 6(k) of the National Forest Management Act of 1976 (NFMA) requires the Secretary to identify lands not suited for timber production. This section requires consideration be given to economic, among other, considerations. How has the Forest Service implemented this section of NFMA? Should the factors listed in 6(k) for suitability be considered for individual timber sales? Do you recommend changes or study be given to making changes in this section or its regulations?

As a matter of record, the Forest Service -- after extensive public involvement, and on the advice of the Committee of Scientists -- published regulations implementing Section 6(k) in 1979, and revised them in 1982. In neither case was the agency's interpretation of the meaning of this section of NFMA subjected to a legal challenge.

In promulgating these regulations, the Forest Service has held that Section 6(k) requires that the agency must designate lands as unsuitable for timber production as part of its forest planning process. Various factors, including "physical, economic, and other pertinent factors," are to be considered, "to the extent feasible." Once land is designated unsuitable, timber is not to be harvested on it for ten years, except as provided.

The Forest Service has consistently read Section 6(k) in the following manner. First, when promulgating regulations under NFMA, the Agency expressly considered and rejected approaches such as individual sale, economic screens or similar, strict minimum standards. In fact, the role of economic analysis and the structure of the suitability determination were central issues addressed in the preamble to the proposed regulations in 1979. 44 Fed. Reg. 26565 (May 4, 1979). The agency there rejected the proposal that it establish a financial screen, explaining, "There is no minimum economic return required in the regulations, nor is there a firm requirement that net benefits must exceed costs ..." Id. at 26572. Instead, the Forest Service decided to evaluate the relative efficiency of land so that more cost efficient land is harvested before less cost-efficient land. This approach was adopted in the suitability regulations, at 36 CFR §219.12(b)(2) (1979).

The agency retained this approach in 1982 when it revised the regulations. Moreover, in the preamble to the revised suitability regulations, at 36 CFR §219.14 (1982), the Forest Service squarely rejected arguments that there should be a suitability determination that either results in a fixed land base or applies to individual sales. 47 Feb. Reg. 43033 (Sept. 30, 1982). Instead, the agency noted that suitability "depends upon the objectives" of the selected alternative and that "[e]ach alternative could have a different area of suitable land." Id.

The three-step suitability determination presently used by the Forest Service is entirely consistent with NFMA. Section 6(k) requires the Forest Service to identify lands which are not suited for timber production during the forest planning process, and lists some of the factors to be considered. In the current planning process the Forest Service is to consider those factors along with forest objectives, adopt an appropriate forest plan, and designate land not selected for timber production as unsuitable. Section 6(k) also requires that, until a new forest plan is adopted (i.e. for ten years), no harvesting is to be scheduled on unsuitable land, except salvage sales or sales to protect multiple use values.

The notion that the economic considerations reflected in Section 6(k) should be strictly applied to individual timber sales was considered and rejected by Congress when NFMA was passed in 1976. (Moreover, this position was recently upheld by the U.S. Circuit Court of Appeals for the Ninth Circuit in the Jersey Jack case). Review of the legislative history of Section 6(k) shows that Congress wished the Forest Service to take a broader view of the economics of timber sale management.

The Senate version of the bill that became the NFMA stated that the Forest Service shall declare land unsuitable for timber production "where the estimated cost of production will exceed the estimated economic return ..." S. 3091, 94th Cong., 2d Sess §6(d)(6)(H)(iii) (1976). The House version, on the other hand, directed the Forest Service to develop a procedure "for estimating long-term costs and benefits" and to identify in an annual report timber sales "made below the estimated expenditures." H.R. 15069, 94th Cong., 2nd Sess. §5(l) (1976). In short, the Senate version would have prohibited timber sales if a loss were expected (as is now being suggested), while the House version recognized that sales would be made at a loss and merely called for identification of such sales.

The Conference Committee essentially adopted the House approach to this issue by deleting the Senate language prohibiting individual sales where a loss was expected. Instead, the Conferees directed the Forest Service to consider "physical, economic, and other pertinent factors to the extent feasible." In doing so, the Conference Committee did not -- as some have suggested -- simply collapse the Senate's prohibition of sales "where the estimated costs of production will exceed the estimated economic return" into the direction to consider "economic" factors. If the Conference Committee had intended such a prohibition, it would have adopted the Senate's phrase. The reaction to the Conference Committee's changes on the part of Senator Randolph, a supporter of the Senate bill, confirms that "economic" was given a broader meaning in the final version. He complained that the Senate's version of Section 6(k) had been "substantially altered" and, in his view, rendered "virtually meaningless." 122 Cong. Rec. 33838 (Sept. 30, 1976).

Furthermore, Section 6(k) of NFMA retains the House bill's requirement that the Forest Service devise "a process for estimating long-term costs and benefits" of timber production and identify a "representative sample" of sales "made below the estimated expenditures" in the annual report submitted with Forest Service's budget request. 16 U.S.C. §1604(l). Thus, Congress anticipated that timber sales would be made where expected costs exceeded expected receipts and decided to require the Forest Service to describe a sample of such sales to it annually.

The proposition that the Conference Committee considered, but rejected an approach under which the term "economic" in Section 6(k) was to have a narrow meaning, is further buttressed by the fact that Congress intended "economic" factors to include effects on local dependent communities as well as the government's expected profit or loss. Thus, Representative Symms, who was on the Conference Committee, made clear, during debate before the House approved the Conference Report, that the economic factors in Section 6(k) include impact on local economies:

> "In his determination of the suitability of lands for timber production, the Secretary is expected to consider all relevant factors, including economics, physical problems, and environmental considerations. It was noted during the conference that the Forest Service and the Secretary will take into account the impact on local dependent economies in their implementation of the language adopted by the conferees in the final bill." 122 Cong. Rec. 34228 (Sept. 30, 1976) (emphasis added).

Moreover, examination of a colloquy between Senator Humphrey and Senator Hatfield, both of whom were on the Conference Committee, also shows that Congress meant "economic" factors to include effects on dependent communities. In discussing the provision of NFMA permitting departures from nondeclining yield, Senator Hatfield asked whether the Forest Service would consider "economic impact upon local communities." 122 Cong. Rec. 33836 (Sept. 30, 1976). Senator Humphrey, who submitted the Conference Report to the Senate, responded affirmatively and said that: "both the economic and the physical considerations were to be included." Id.

Thus, it is clear that in 1976 Congress fully considered but rejected an approach that would have applied a strict economic test to individual timber sales. The Forest Service properly reflected Congress' directive and published a broader standard requiring a balancing of economic and other factors. The agency solicited comments on this approach not once, but twice. No party to these rulemakings that was dissatisfied with the results stepped forward to exhaust their administrative or judicial remedies in a timely fashion. Consequently, the industry sees no need for statutory or regulatory changes at this time.

6) The land management planning process provides for public involvement in setting management directions for the National Forests. Are you given adequate opportunity to comment on the land management plans and the planning process? Do your comments actually influence the land management plans? Are you given adequate opportunity to review and comment on management area prescriptions? On road network plans? Do you believe that the planning process is the appropriate forum for resolving the below-cost sales issue?

Generally, we are afforded adequate opportunity to comment on draft land management plans. However, it is still too early in the planning process to assess whether, under normal circumstances, our comments are actually influencing the contents of the final plans. We are becoming increasingly concerned that the Forest Service's preoccupation with planning deadlines is leading to expedited and hasty schedules and decisions at the expense of quality. However, since this issue is substantially broader than sales below cost, the Subcommittee may wish to consider separate oversight on the status of the planning process.

With respect to management area prescriptions and road network plans, while they are not as widely circulated as land management plans, they are available for any interested reviewer. We review them as needed. Finally, as indicated above, we view the planning process as one forum for discussing elements of the below-cost sales issue. We believe, as Mr. Craine's testimony details, that the forest planning process could provide some useful information pertaining to the benefits and costs of timber management.

7) Forest roads can provide other benefits in addition to providing access for harvesting timber. For example, Chief Peterson has stated that timbering is "the most cost-effective" way to improve wildlife habitat. What are the other benefits of road construction and timber harvesting generally? In addition, what are the non-cash costs associated with the timber sale program, such as environmental degradation? Moreover, how often and when do timber revenues plus the above benefits outweigh timber sale costs?

For road construction, the principal non-timber and non-wildlife benefits are increased access for recreation, general administration, and fire suppression. The principal non-timber or non-wildlife benefits of timber harvesting include pest control, fire prevention, water yield, and community stability. The principal non-cash costs associated with timber harvesting are water quality impacts, adverse habitat impacts for some wildlife species, and reduced roadless area opportunities in certain instances.

In order to accurately assess how often and when timber revenues plus non-timber benefits outweigh timber sale costs we will need the results of the Forest Service's present cost accounting study. Even then, the answer may not be clear in all instances. Anyone attempting to provide an answer with the data and analytical tools presently available is likely engaging in either an incomplete analysis and/or a great deal of speculation.

8) The Forest Service has stated that road construction costs are not the overriding reason for below-cost timber sales; yet such sales are often associated with high road construction costs. What are your thoughts on how the Forest Service should allocate construction and other investment costs among resources and over time?

Timber sale profitability is affected by three major factors:

a) In response to the Subcommittees questions, Chief Peterson identified depressed prices for wood products as the major reason for below cost timber sales (April 10, 1985 letter to Chairman Whitley). We certainly agree that questions about the profitability of the timber sale program should diminish as market prices for wood products increases. Mr. Willhite's testimony addresses this point in detail.

b) Forest Service costs also affect the profitability of the timber sale program as Mr. Welling points out in his testimony. The Forest Service has done some things to reduce these costs, but more remains to be done. Some of these costs are related to road construction. As these costs are reduced, the timber sale program will be more profitable.

c) Costs borne by the purchaser result in lower bids. If purchasers costs -- including roading costs -- can be reduced, the purchasers are likely to bid sales up to higher rates, thus enhancing the profitability of the sale program. Mr. Himmel's testimony indicates how purchasers' costs can be reduced.

Allocation of costs to the benefitting resource can help to provide useful information to decisionmakers. (It should be remembered that comparison of timber sale costs and timber sale receipts is not a comprehensive economic analysis in that non-timber costs and benefits are ignored. It is improper to reject any project based on such partial analysis.) As Mr. Sitts' testimony points out, allocation of any cost, including road costs, should begin by identifying separable, mitigation, and joint costs.

Separable costs should clearly be allocated to the benefitting resource. For example, if road standards are increased primarily to benefit recreation, the incremental costs should be allocated to the recreation resource.

According to economic theory, mitigation costs can be allocated to either the resource produced or the resource protected. (See "The Problem of Social Costs," Ronald Coase, Journal of Law and Economics, October 1960). While the allocation is somewhat arbitrary, we suggest that at least two rules for allocation of mitigation costs should be explored. Costs of minimum protection required by law could be allocated to the producing resource and the remaining mitigation costs allocated to the protected resource. A second approach would base the allocation on the management objectives specified for a parcel of land in the forest plan.

Allocation of joint costs is arbitrary beyond some point. Dr. Douglas Rideout of Colorado State University is currently exploring methodologies to reduce the arbitrary region. We suggest that the Forest Service examine his work to help the agency to understand how joint costs can be allocated in an equitable manner.

Amortizing road costs over time is merely a special case of joint cost allocation -- subsequent and adjacent timber sales, as well as future non-timber uses, should share part of the cost of the first roading entry.

9) The Forest Service, in its testimony before the Subcommittee on February 26, 1985, stated that they are now considering a new timber sales policy to address the below-cost sales issue. What factors would you like to see incorporated in the consideration of a new policy to guide timber harvesting on the National Forests?

Over the near term, the Forest Service should concentrate its efforts and resources on the development of a new accounting system, since most policy changes will need to emanate from the analytical base that the new system provides. In the interim, the agency can pursue alternatives to reduce its costs, and explain -- without assuming the existence of appropriate accounting procedures -- in the forest plans, the role that timber sales play in the management objectives of each forest. NFPA would object to any policy initiatives that: (1) divert resources from; (2) presume the results of; or (3) undercut the credibility of, the new accounting system.

We understand that the agency issued the policy on June 1. We are still studying the contents of the policy, and will submit our views to the Subcommittee for the record.

IFR INLAND FOREST RESOURCE COUNCIL
ROOM 320
110 EAST BROADWAY
MISSOULA, MONTANA 59802
PHONE (406) 728-1710

June 17, 1985

Honorable Charles O. Whitley, Chairman
Subcommittee on Forests, Family Farms and Energy
1430 Longworth House Office Building
U. S. House of Representatives
Washington, D. C. 20515

Dear Congressman Whitley:

This letter is a supplement to the testimony submitted by the Inland Forest Resource Council on June 6, 1985, and we request that it be included in the hearing record.

Much of the controversy over the Forest Service timber sale program centers on roads as did much of the testimony received June 5 and 6. So that the subcommittee will gain full understanding of the road situation in the Northern Region of the Forest Service (R-I), the following data from "Engineering and Timber Statistics by Region and Forest", a Forest Service report, are submitted for the record.

Road construction and reconstruction from all funding sources in Region One of the Forest Service has been on a downward trend for several years. The miles of road involved have dropped from 1,700 in 1979 to 1,137 in 1984. An even bigger percentage decline in money spent on construction and reconstruction has occurred over the same time period even with continuing inflation. In 1979, the Region spent $44 million on roads, and in 1984 only spent $23 million.

However, these statistics are more meaningful when their components are examined.

Funding Programs

Forest Service road construction and reconstruction is funded under one of three programs--purchaser credit, purchaser election for small business, and public works contract. In addition, distinction must be made between new construction and reconstruction.

Construction obviously involves new roads. While these roads generally are built where none have been before, new construction projects are not universally aimed at potential wilderness areas. The Forest Service estimates that only about 10% of the inventoried roadless areas in Region I not recommended for wilderness by the agency will be roaded over the next ten years. Many new roads are merely extensions of existing systems.

DEDICATED TO INTENSIVE MULTIPLE-USE MANAGEMENT OF OUR FOREST RESOURCES

Reconstruction, of course, involves just that--rebuilding existing roads to a higher standard. This may involve such things as upgrading the surface or replacing culverts with bridges.

Roads built with purchaser credit are based on a program whereby the holder of a Forest Service timber sale contract must build roads to specifications required by the agency for timber removal and then have the amount to be paid in cash for the timber reduced by the estimated value of the road. In essence, the government is buying a physical asset (the road) with the value of its standing timber.

Under another program, timber purchasers that qualify as small businesses under SBA rules have the option of building the specified roads themselves or having the Forest Service build them through a public works contract. This is known as purchaser election.

The most controversial roads are those built with appropriated funds through public works contracts. These are the capital investment roads, and they are intended to be just that. Normally roads built under the terms of a timber sale contract, whether by purchaser credit or purchaser election should be built to lower specifications than capital investment roads which are designed for heavier traffic and longer life. Capital investment roads generally are built to provide access to relatively large areas, and it is not intended that the first volumes of timber to come out over these roads should pay for them. However, development should show positive benefits over time.

Capital Investment Share

The Forest Service report shows that 21% of all the road activity in 1984 went to new construction under the capital investment program, and that the program accounted for 31% of all activity when reconstruction is included. Reconstruction accounted for 41% of all activity, both public works and timber sales' roads.

In recent years, the road mileage construction and reconstructed under timber sale contracts through purchaser credit or purchaser election has been declining because of poor timber markets. Some of this activity has been replaced with public works contracts, but most of this has been for reconstruction which increased sharply since 1981. The road work is done with appropriated funds because there is insufficient value in the timber at this time to support the road costs, yet dependent mills still need raw material. New construction under the capital investment program also has been increasing, but 1984 construction dropped off from 1983. It cannot yet be determined if the trend has turned.

Contrary to the popular belief nurtured by environmental groups, not all of the timberland left to be roaded in Region One is of poor quality. Forest Service figures show that much of the land suitable for timber production in the Region still does not have access. Even with all of the suitable timber growing land roaded, less than half of all national forest lands will be developed.

In summary, new road construction under the capital investment program is a small part of the total program and most new construction is tied to timber sale contracts. In addition, over 40% of the road work in the region is reconstruction of existing roads.

Sincerely,

Richard G. Reid

Richard G. Reid
Executive Vice President

RGR:jn

cc: Forests, Family Farms and Energy Subcommittee Members
Honorable James McClure
Honorable Steven Symms
Honorable Larry Craig
Honorable Richard Stallings
Honorable John Melcher
Honorable Max Baucus
Honorable Pat Williams
Honorable Ron Marlenee

STATEMENT FOR THE RECORD

OF

JAMES SITTS
TIMBER MANAGER
COLUMBIA CAROLINA CORPORATION
OLD FORT, NORTH CAROLINA

ON BEHALF OF
THE SOUTHERN APPALACHIAN MULTIPLE USE COUNCIL

BEFORE THE
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE
UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I. INTRODUCTION

Good morning. I would like to thank Chairman Whitley and the members of the Subcommittee for allowing me to testify today on the issue of U.S. Forest Service timber sales below cost. My name is James Sitts. I am the Timber Manager for the Columbia Carolina Corporation in Old Fort, North Carolina.

I am also the President of the Southern Appalachian Multiple Use Council (SAMUC). SAMUC is a regional organization representing solid wood products manufacturers in the Appalachian region of western North Carolina. SAMUC's members are partially or wholly dependent upon fiber from lands managed by the U.S. Forest Service. To illustrate, SAMUC participated actively in the public comment period on the draft forest plans for the Pisgah, Nantahala, and Cherokee National Forests. Forest Service timber sales economics, and so-called "below-cost sales" were at issue in each of these forest plans.

Each of our panel members will discuss a particular element of the sales below cost controversy. Mr. Bennett review the issue in the context of forest management needs in the southern national forests. During my presentation I would like to speak about the recent cash flow studies of the Forest Service that form the basis for much of the current controversy. I will: (1) show the problems inherent in using cash flow as the principal criterion for justifying forest management decisions; and (2) describe the problems associated with conducting an accurate cash flow analysis.

II. THE CASH-FLOW CONTROVERSY

As indicated, over the past several months, the Forest Service's timber sales program has been criticized for below cost timber sales -- sales where the Forest Service's costs (including road construction) are higher than receipts generated from sale of the timber. Much of this controversy was generated by three studies of the Forest Service's timber sale program performed within the past two years by the General Accounting Office, the Congressional Research Service, and the Wilderness Society. The forest industry has substantial problems with the methodologies employed, and conclusions drawn, by all three studies.

The debate spawned by these studies is based upon the incorrect premise that the recent cash-flow analyses describe the nature and extent of the below-cost timber sales with a reasonable degree of accuracy. I would like to explore three questions which should be answered before contemplating policy changes based on these studies: (a) Are the data used in the cash-flow analyses appropriate? (b) Is cash-flow an appropriate measure of the profitability of the timber sale program? (c) Do the accounting techniques used accurately compare costs and benefits?

A. Are the Data Used in the Cash-Flow Analyses Appropriate?

The data used in these studies are not appropriate. The CRS and Wilderness Society studies are based upon information provided by the Forest Service. All timber sale program costs fall into the following categories: (1) sale preparation and administration costs; (2) resource support costs; (3) K.V. reforestation and timber stand improvement; and (4) investment costs -- road engineering and construction.

During 1983 House Appropriations Committee hearings, the Forest Service warned that these sale preparation and administration costs "include more than those costs directly attributable to timber sales such as: management of the firewood program, support to forest land management planning, timber trespass investigation, and sale of Christmas trees and other miscellaneous forest products, and participation in other forest activities and programs by timber sale personnel." The Forest Service noted, furthermore, that investment costs "are all part of the road capital investment and cannot be expressed against a single program, project or year without indicating an equivalent asset gained in the form of completed roads."[1] The Forest Service response to the GAO study indicates that the GAO encountered similar problems in its study.

The conclusions of the three aforementioned studies vividly illustrate the limitations of these data. Each of the studies has a different estimate for overall losses from selling timber, ranging from $92 million to $900 million. This 1,000% variation demonstrates that the present Forest Service accounting system cannot provide individual resource cost information because the data only approximate the true costs of a particular resource program. In an attempt to evaluate the profitability of the timber sales program, some important costs are ignored, and other extraneous costs are inappropriately included in these studies.

---

[1] Department of the Interior and Related Agencies Appropriations for 1984, pages 326-343, Hearings Record.

B. Is Cash-Flow a Good Measure of Profitability of the Timber Sale Program?

The answer is no -- a single year cash-flow analysis does not measure the profitability of the timber sale program. An overall economic analysis is needed to account for all of the market and non-market benefits and costs. A complete analysis of the timber sale program should incorporate information on: (1) cash receipts; (2) budgetary costs; and (3) the costs and benefits to non-timber resources through time.

Unfortunately, a definitive economic analysis of the timber sale program is difficult to produce because some timber sale impacts are not quantifiable. Others are difficult to value. Future benefits and costs are uncertain. Information about non-timber benefits and costs must be collected.

Faced with these difficulties, a cash-flow analysis appears to be an attractive alternative. Annual timber sale receipts can be compared to annual timber sale budgetary costs. Changes in costs and benefits through time can be ignored. Non-timber benefits and costs can also be ignored, thereby avoiding difficult quantification and valuation problems.

Such a cash-flow approach, however, is misleading. It is impossible to consider the efficiency of a program when information about a portion of the total benefits and costs is unknown. As Mr. Craine earlier indicated, some of the recent

National Forest Management Act (NFMA) plans indicate that non-market resources comprise a substantial portion of the total timber program benefits.

Another important difference between cash-flow and economic analyses is their applicability under the laws governing the Forest Service. Section 6(k) of the NFMA identifies "economic factors" as only one of the considerations in identifying lands not suited for timber management. The legislative history of NFMA shows that Congress intended economic factors to mean more than just annual cost/revenue information. Attached to NFPA's statement for the record is a detailed analysis of the meaning of Section 6(k) of the NFMA in response to the questions you posed.

Moreover, the Multiple Use and Sustained Yield Act of 1960 precludes the use of cash-flow information as the primary criterion in National Forest land management decisionmaking. According to this statute "'Multiple Use' means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people ... with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

The cash-flow analyses which criticize the Forest Service timber sales program answer a limited and irrelevant question, "Do annual timber receipts exceed annual timber sales costs?" The multiple-use mandate governing Forest Service management asks the more appropriate question, "Do total benefits of the timber sale program exceed total costs through time?" No cash-flow analysis has ever addressed this question.

C. Do the Accounting Techniques Used Accurately Compare Costs and Benefits?

As many of the present critics of the economics of the timber sale program remind us, timber harvest can impact on other forest resources. Some of the impacts are beneficial and some are detrimental.

Producing or protecting non-timber resources sometimes increases costs to either the government or the purchaser. Charging these costs to the timber account has the effect of overstating timber costs while understating non-timber costs. A cash-flow analysis should charge the increased costs to the account of the appropriate benefiting resource. If cash-flow is ever to be used to evaluate the timber sales program, four kinds of costs must be identified and allocated to the proper accounts:

1. Separable Costs

Separable costs are those costs necessary only for producing non-timber resources. An example is the extra cost of building a road to a standard required for subsequent recreation use. The extra cost to support recreation must be allocated to the Forest Service's recreation account.

2. Mitigation Costs

Mitigation costs are the costs of protecting non-timber resources. For example, sale layout and design costs are often increased to protect the visual characteristics of an area. The extra costs incurred can be allocated to the account for the protected resource according to economic theory. Identifying mitigation costs also allows the economic efficiency of mitigation measures to be evaluated.

3. Joint Costs

Joint costs are the costs of activities which produce two or more resources simultaneously. For instance, timber sales often increase forage production, which in turn enhances game habitat. There are several accounting techniques for allocating joint costs although all the methods are, to some extent, arbitrary. On the other hand, avoiding any attempt to allocate joint costs -- as the Forest Service's present system does -- is perhaps the most arbitrary approach of all since 100% of the costs are inappropriately allocated to the timber account.

4. Purchaser Costs

Purchaser costs, as Mr. Himmel will discuss, must also be considered. If a bidder anticipates high operational costs due to protection or production of other resources, he will decrease his maximum bid to cover these costs. The revenue forgone, or profit reinvested, must be counted in any study of the profitability of the timber sales program.

Identifying and allocating the kinds of costs outlined above is a difficult and time consuming task which requires some knowledge about the peculiarities of each timber sale. None of the recent cash-flow analyses has attempted any kind of cost allocation. The results are, therefore, biased since the timber account was charged with costs which should properly be charged elsewhere.

Beyond simply disputing recent cash flow analyses, the industry believes that operational costs on federal timber sales are excessive. Costs are high, in part, because the Forest Service must operate its timber sale program under a myriad of environmental constraints, most of which add to the costs of production.

Mr. Himmel, Mr. Welling, and Mr. Wilhite will provide you with examples of these costs in the Intermountain West. Similar situations exist on the southern national forests.

The Forest Service has made some efforts to reduce costs. These cost reductions will certainly help to increase profitability of the timber program while continuing to provide multiple resource benefits. However, the Forest Service must continue its efforts to examine the cost side of timber sales in order to reduce costs where possible without causing environmental harm.

IV. HOW SHOULD THE ISSUES RAISED BY THE INACCURATE CASH-FLOW ANALYSES BE RESOLVED?

In the industry's view, the issue of sales below cost is, as Mr. Reid indicated, at this juncture still primarily an accounting matter. The studies described above do not properly allocate costs, and therefore overstate the costs that are compared to revenues from timber sales. These studies do highlight the problems inherent in the Forest Service's present method of cost accounting. That, however, is the extent of their contribution to the current public dialogue on the sales below cost issue. Until the Agency has a better costs accounting system that provides a means of allocating cost among different resource accounts, any deliberations about whether to harvest timber represent an exercise in outcome-oriented analysis.

Mr. Chairman, on February 26, you commenced oversight of the Forest Service's actions to resolve the issue by calling the Forest Service as your first witness in the hearings which we are continuing today. At that hearing, Chief Peterson summarized the Agency's progress in developing a better cost accounting system. He noted that:

> "We are currently reviewing accounting procedures to determine if we can more accurately estimate the costs and benefits associated with the timber sale program on a National Forest. A special group has been organized to accomplish this task. Our initial report, identifying four principal tasks, was submitted to the Congressional appropriations committees in December. We are presently in the investigation stage, with design, testing and recommendation steps to come in that order. It is already obvious that it is relatively easy to determine costs. However, to quantify the wide array of benefits and impacts of different uses and therefore relate overall costs to benefits is quite complex.
>
> By summer, we hope to begin testing and evaluating alternative methods of relating costs and benefits. Next year, we expect to be ready to implement any changes in our present system that are determined to be appropriate from the study. As a part of the investigation stage, we have already found that there does not appear to be any system now in use in any public or private organization that accounts for all the costs and benefits associated with a timber management program which is designed to meet multiple use objectives."

The Forest Service is well underway with its efforts to evaluate better cost accounting systems. The industry supports this effort and has been working with the Forest Service Task Group. Mr. Riley will summarize our position and provide the

Subcommittee with the industry's views concerning the principles that should be reflected in any new accounting system.

Until this effort produces the information necessary to derive a better and more complete picture of total costs and benefits, it is at best premature to attempt to address questions concerning issues such as: (1) federal timber harvest levels; (2) allocation of land to unroaded uses; (3) interactions between public and private investment in timber production; and (4) the role of the Forest Service in providing community stability. At worst, it is an attempt to use incomplete and misleading analysis to argue a quite different case than whether the Forest Service is making sound investment decisions. The industry urges this Subcommittee to continue its responsible, step-by-step approach of careful oversight to assure that the Forest Service develops the analytical tools necessary to properly resolve this important issue.

Thank you for the opportunity to testify. I would be pleased to respond to questions.

STATEMENT FOR THE RECORD

OF

JAMES R. CRAINE

VICE PRESIDENT

INFORMATION AND ENVIRONMENT

WESTERN TIMBER ASSOCIATION

ON BEHALF OF

WESTERN TIMBER ASSOCIATION

BEFORE THE

THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

COMMITTEE ON AGRICULTURE

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I. INTRODUCTION

Hello, my name is James Craine. I am the Vice President of Information and Environment for the Western Timber Association (WTA) in San Francisco, California.

The Western Timber Association represents timber purchasers and manufacturers who are dependent upon the national forests in Region 5 for their resources. Our members process enough federal timber annually to affect the housing needs of more than half a million people nationwide. They provide jobs for about 13,000 people directly involved in the processing of that timber. The public timber they process accounts for an estimated $8,000,000 annually in tire sales, to consider just one random aspect of the many incidental benefits of their activities. They contribute to the economic activity of many other industries as well.

WTA is continually involved with the Forest Service in an effort to ensure that public land is managed for a variety of uses. During the last few years, we have focused on encouraging the Forest Service to reduce costs in order to make timber sales more economically attractive. We have also put a good deal of our resources into the National Forest Management Act (NFMA) national forest planning process. Today, I will limit my remarks to the linkage between below-cost sales and the forest planning process.

Attached to this statement is a description of how we believe the multiple use process works using a hypothetical timber sale as an example. I will also be happy to answer any questions about specific cost reduction issues in Region 5 as well.

As the below cost sales issue has received the attention of various Committees, the Chief of the Forest Service has indicated that the upcoming forest plans will address the issue. Today, I will discuss: (1) the opportunity that the forest plans represent for dealing with the issue; and (2) the usefulness of information likely to be found in the forest plans given current planning direction.

II. OPPORTUNITIES PRESENTED IN THE FOREST PLANS

The National Forest Management Act of 1976 requires that each National Forest generate a forest-wide management plan which guides the management of the forest for 10 to 15 years. These national forest plans are linked to national and regional goals and objectives through the RPA and regional planning process. Underlying the planning requirements of NFMA and subsequent regulations and direction, are some fundamental principles which are directly applicable to the below cost sales issue. These principles are:

1) Forest management activities -- especially timber harvest -- often affect other resources, both positively and negatively. Many resource impacts are a function of the pattern of management activities across a large area, rather than specific activities on a particular tract. These impacts must be identified and understood when planning future management.

2) Non-market resources have values which must be considered in the decisionmaking process. Economic or financial measures cannot now, and probably never will, tell the whole story.

3) Local management issues and concerns about various resources must be balanced across the forest. National and regional issues must be balanced against management activities with local implications.

4) The Forest Service has traditionally played a role in the economies of local communities. These responsibilities cannot be ignored.

5) Short term management programs must be sensitive to the long-term implications of how resources are managed.

Mr. Sitts' testimony illustrated that some of these principles are also critical to gaining a clearer understanding of the profitability of the timber sale program. To reiterate, total resource benefits through time should be compared to total resource costs through time. Such a comparison is necessarily based upon the principles outlined above.

The forest planning process may offer an ideal opportunity for generating the information which is needed to properly understand and address the below-cost sales issue. Each national forest has developed a set of analytical tools designed to find the most efficient combination of management practices to meet a given set of objectives and to identify the non-timber impacts -- both positive and negative -- resulting from timber management. Local forest planning teams have developed the analytical capabilities to produce the information needed to address any given land management issue. Finally, the public involvement process has been utilized to obtain and address local public issues.

Using these tools, it is possible to determine: (1) the short and long-term forest-wide benefits and costs of timber management on a particular forest; (2) the least cost method of meeting any given timber objective; (3) the cost of operating under multiple use objectives; (4) the effect of various Forest Service timber harvest policies (e.g. non-declining yield, target diameter size, clearcut size restrictions, etc.) on the profitability of forest management; (5) the effect of different forest management schemes on local economies; and (6) the relationship between national concerns about timber sale economics and local issues, needs, and problems. The Forest Service should consider this kind of analysis in the future as one means of addressing the policy questions raised by the below cost sales issue.

III. LIKELY OUTCOME OF THE PLANNING PROCESS

In spite of the opportunities the forest planning process presents for generating useful information about the below cost sale issue, it is our opinion that this round of forest plans will probably not shed much light on the issue. This caution stems from the fact that the direction for dealing with the issue has been delayed, and is, in some cases, ambiguous.

On April 10, 1985 the Chief, in response to a question raised at the February 26, 1985 hearings of this Subcommittee, stated that the Forest Service had yet to issue any national direction to address the below-cost sales issue in the forest plans. We were pleased to see that direction was issued on April 24, 1985.

However, at that time, 54 forests had released draft or final plans. Draft plans for some of the remaining 65 forests were in the final review process, since the Chief is attempting to have almost all of the draft plans completed and out for public review by the end of this fiscal year. The Chief indicated that he is not considering issuing any supplemental analyses pertaining to this issue for those plans which are already in final form.

Thus, many of the forests already have draft or final plans. Others are under pressure to wrap up the planning process within a few months. This leads us to believe that the thorough analysis required to address the issue properly will probably not be forthcoming in this round of forest plans.

In addition to being untimely, the April 24 direction is unfortunately vague. Mr. Sitts and others have pointed out that allocating mitigation and joint costs to separate resource accounts is inherently arbitrary. He also indicated that cost allocation information is sufficiently important so that some arbitrariness can be tolerated. If this is the case, however, the arbitrary allocations must be made in a consistent and systematic manner. Otherwise, information from different forests cannot be compared or aggregated. Unfortunately, the April 24 direction for discussing the issue in forest plans does not provide a consistent framework for determining which costs should be charged against timber receipts.

To illustrate, the April 24, 1985 letter depends upon the existing forest planning regulations for a definition of timber sale costs. It states that:

> "If forest wide timber sale receipts have not recovered timber-related costs, as defined in 36 CFR §219.14(b)(a), in any of the last 3 years, highlight as a management concern and discuss how it will be dealt with."
>
> "Briefly illustrate situations where individual sales may not recover costs but still contribute to economically rational decisions, given the objectives."

Concerns about below cost sales, however, were not as sharply focused at the time the referenced regulations were drafted. The regulations, therefore, provide only a vague, non-operational definition of timber sale costs:

> "Direct costs include the anticipated investments, maintenance, operating, management, and planning costs attributed to timber production activities, including mitigation measures necessitated by the impacts of timber production." (36 CFR §219.14(b)(2))

While this definition is comprehensive, it provides no guidance for grappling with the difficult job of determining which costs should rightly be compared to timber sale receipts. Last year, the Chief told the House Appropriations Committee that the Forest Service did not have a methodology for identifying those timber sale costs that could be compared to timber sale receipts. Congress responded by appropriating $400,000 for the Forest

Service to develop such a system. The above-mentioned planning direction, however, requires the forests to determine how to undertake this same difficult task without the benefits of the study.

The Forest Service's April 24, 1985 letter is attached to my testimony. The letter is imprecise -- not only in defining timber sale costs -- but in prescribing analysis which can be of use to those interested in the issue. The letter is unlikely to explore the six issues I referred to earlier in my testimony.

IV. CONCLUSION

The timber industry has been supportive of the national forest land management planning effort since its inception in the National Forest Management Act. We have used our analytical expertise to help design, monitor, and modify the process as new issues have come to the forefront. Furthermore, we believe that the NFMA planning process will produce some good and useful information about issues which were ripe when the planning process was designed. We also feel that the local forest planning teams could use established planning tools and processes to provide information critical to resolving the below cost sales issue.

We are concerned, however, that, because the planning direction has been so long in coming and is so vague, the results are more likely to be confusing than helpful. We urge this Subcommittee to view below cost sale information from this round of plans with caution -- some plans will be better than others, but there will be not standardization.

We think that this Subcommittee, however, will find that the Forest Service Timber Sale Accounting System study will yield some useful information. The study should provide a systematic and standardized methodology for identifying the extent and nature of below cost timber sales. Given the information from this study, the Forest Service will be in a good position to address the policy questions inherent in this issue. If the agency then decides to change the timber sale policy in a substantial way, the accounting system methodology can be incorporated into existing forest planning tools, and the forest plans can be subsequently modified as necessary. Thus, with the Accounting System study, we believe that the Forest Service is on the road to a positive solution to the sales below cost problem.

Additional Remarks Before the Subcommittee on Forest, Family Farms, and Energy of the House Agriculture Committee

Washington, D.C., June 6, 1985

by James R. Craine

Vice President, Information and Environment,
Western Timber Association

Management of almost any piece of land depends upon manipulation of the land's vegetative cover. A land manager who is prohibited from manipulation the vegetative cover is not a manager. He is a custodian. This is true in varying degrees whether one manages a golf course, a wheat farm, a city park, a highway greenbelt, a suburban subdivision, a cattle ranch, or a national forest. A land manager cannot operate in a vacuum, however. Whatever means he uses to accomplish his objectives, he will produce some secondary results. He must predict those results and consider them in his plans.

Thus, the forester who undertakes a big game habitat improvement project on the property in his charge will, almost inevitably, cut some trees. He will plan the pattern and intensity of that cutting with his primary objective, big game habitat improvement, in mind. When the project is complete, it will have done some other things, too. It will have affected the snow and water retention capability of the area. It will have changed the appearance of the area. It may have developed of forest users, protectors, and managers in the future. It will have changed the ground cover vegetation, possibly attracting greater numbers of domestic stock grazing under permit in the forest. It will have affected the non-game wildlife habitat. It will have resulted in some wood on the ground that was standing prior to the project. That wood may be available to firewood gatherers. On the other hand, if it has commercial value, it may be sold. The income will help mitigate the cost of the big game habitat improvement project. It may even be enough to offset that cost entirely.

The forester may have any number of different primary objectives for the area -- control of run-off characteristics, development of recreational potential, augmentation of feed for domestic stock, development of vistas or overlooks, improvement of timber producing capability, or others. He must plan his activities to accomplish his primary objectives while anticipating the secondary results, all within his budgetary limitations. If he finds that his projected secondary results and/or his budgetary limitations become dominant considerations, he may have to modify his actions. In that case the results, although an improvement over the existing situation and perfectly acceptable, may be something less than the ultimate ideal.

He may, for example, find that his big game habitat improvement project will cost $50,000 but that he has only $20,000 to spend on habitat improvement. Given his budgetary limitations he must abandon his plans for that particular big game habitat improvement project. Or must he?

His plan also requires him to offer "X" volume of commercial timber sales annually, and his budget provides for that activity. He knows that he can modify the cutting pattern in the habitat improvement area and still have an acceptable, if not legal, habitat improvement project. The modified cutting might not be ideal from a timber harvest or management standpoint, either, but still professionally acceptable. The forester proceeds to prepare and offer a timber sale with conditions substantially modified from what they would have been if enhancement of timber production had been the primary, or driving, objective. Those modifications result in higher Forest Service administrative costs, higher timber purchaser costs, and, therefore, lower stumpage revenues.

The land and resource management plan, as required under the terms of the National Forest Management Act, has previously considered and analyzed the effects of the project. Based in part on commodity output targets and appropriations pigeonholes, it has designated the project a timber sale. It has not necessarily displayed the differences between the project as a multiple use management tool and as strictly a timber management tool. If the sale returns, say, $10,000 less than the Forest Service costs, the "below-cost sale" critics may use it as an example of their concerns.

But what has really happened? The forester has produced his prescribed timber output, he has accomplished his $50,000 habitat improvement project for $10,000 (the net timber "loss"), and he has put his budgeted $20,000 habitat appropriation into another project elsewhere, i.e. the timber sale has helped him produce $70,000 worth of habitat improvement for a net cost of $30,000.

Putting both timber and wildlife habitat in perspective for this example, timber has broken even, habitat management has received $70,000 worth of benefit for $30,000, and there is no "below-cost" sale. The "below-cost" aspects of the sale have financed a management activity, for another resource at bargain basement rates. The "below-cost" sale is merely a problem of definition and allocation. Remember that at this point we have not even begun to address the values that will accrue to water yield, domestic forage, protection, recreation, and others.

What is the alternative? To do just the $20,000 habitat project and locate the timber sale in an area and with a configuration that will maximize the return from timber.

The forester can make either choice. In most instances the Forest Service has chosen the former. Plans delineate areas in which certain management objectives dominate, but usually not to the exclusion of other management activities except in the case of wilderness. The forester does not decide to proceed in the multi-objective management direction on the spur of the moment, however. He deliberately points his program this way over a period of time through the planning process specified by the National Forest Management Act. His plan is designed to maximize the net public benefits, not necessarily the net dollar return. In developing that plan, he must, in the case of our hypothetical example, decide whether to call his action a timber sale or a habitat improvement project. Obviously, it is good business to call it a timber sale. Just as obviously, it has become poor politics, because the very people who tell us we should be paying more attention to habitat management turn around and say we should eliminate "below-cost" sales. If we followed their wishes we would, in our example, actually reduce our habitat management activities. What should only be a semantics problem suddenly becomes a planning problem.

The Forest Service has tried to display the total value of its vegetative manipulation efforts. One of the first plans to analyze and present the total interrelated benefits was instantly met by a massive appeal on the part of the environmental community. We do not understand why these groups wish, on the one hand, to emphasize the economic importance of non-commodity (or amenity) outputs but, on the other hand, object when those values are displayed and used in this manner.

Land and resource management planning must recognize the interrelation of all resources. When it does, the "below-cost" timber sale issue all but disappears.

(Habitat management has been used only for example. Interaction of all resources must be considered).

We as a nation, are going to manage our national forests either for their multiple use benefits or for their maximum economic potential. A careful reading of the laws and regulations dealing with the management of our national forests shows clearly that those documents provide direction for multiple use management. Management to maximize net public benefits, to provide the greatest good for the greatest number of people in the long run, and not necessarily to maximize dollar returns are clear, consistent objectives from "day one" in the national forest organization. Any change from that would require additional modified legislation. The forest planning process must conform to existing direction.

If we change national forest management objectives from those of net public benefit to those of maximum dollar returns, we must remember that only certain national forest activities return any dollars at all. Nationally, timber returns more than any other single resource. Other commodities -- oil, gas, mineral, and grazing leases -- also contribute. Locally, some recreation uses provide good income, but the major ones are in the realm of motorized access and developed sites, i.e. ski areas, marinas, concessions, summer homes. The timber industry has always supported the concept of multiple use management on the national forests even though management to maximize dollar returns might look good from a business standpoint. Maximizing returns would, without a doubt, significantly decrease our operating costs. On the other hand, we recognize that all resource outputs have value.

The planning process recognizes those values, whether or not they can be quantified. The process tries to quantify them for its "present net value" analyses, suggested under National Forest Management Act direction, and in so doing has arrived at some incredible figures. Revision of some of those figures to what we consider a more reasonable level would tend to alter the relative importance of timber in the plans and analyses.

Consider, for example, that the Forest Service has established "willingness to pay" values which, planners say, are values which forest users would be willing to pay for the privilege of using the national forests. They are what might be termed entry fees or "turnstyle" values, a cover charge, if you will, for being on the national forest.

Those figures taken at face value say, for example, that a party of five elk hunters camping for five days to enjoy their sport would happily pay the Forest Service $1,500 for the privilege of moving in and setting up camp. A family of three backpacking for a week in the wilderness would gladly write a check to the Forest Service for nearly $600 merely for the privilege of being there.

We suggest that if the "willingness to pay" values are accurate, the Forest Service is overlooking a significant source of revenue. If they are not accurate, then the "present net value" analyses in the planning process may be erroneous.

In any event, to repeat, if the secondary outputs and benefits from timber harvest activities are considered in the planning process, the "below-cost" question becomes academic.

Western Timber Association supports the legislative intent to manage national forests under a multiple-use program that aims to produce the greatest net public benefit rather than to maximize dollar returns. We support the concept of multi-discipline planning to accomplish that intent. We believe, however, that the planning process itself can be streamlined, along with other procedural aspects of Forest Service programs. Greater relative emphasis on results with lesser emphasis on procedure will help the cost effectiveness of all programs, not just timber.

STATEMENT FOR THE RECORD

OF

STEPHEN A. BENNETT
BENNETT LOGGING AND LUMBER

ON BEHALF OF
THE VIRGINIA FORESTRY ASSOCIATION

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I) INTRODUCTION

Good morning. I would like to thank Chairman Whitley and other members of the Subcommittee for providing me with the opportunity of testifying today. My name is Steve Bennett. I operate two sawmills in western Virginia. In addition, I provide pulpwood to Westvaco Corporation's paper mill in Covington, Virginia and veneer logs for overseas exporting. 75% of the logs harvested for these operations are done by my own crew. The Forest Service timber sale program provides 80% of my operating resource base. Presently, I have five timber sales under contract with the Forest Service. Thus, you can understand my keen interest in the outcome of the below cost sales issue as well as the Forest Service's management plans in my area.

Only about 3% of the timber harvested in Virginia comes from the National Forests. In some areas, however, operators are largely or wholly dependent upon National Forest timber sales.

I think that I have some amount of expertise in this issue because I bought one of the so-called, below cost sales on the George Washington National Forest. The second part of my prepared statement describes this sale in detail. I think that it is useful to look at the social benefits and costs of an actual timber sale in some detail in order to illustrate the concerns that today's witnesses are discussing.

For the first part of my testimony, I would like to talk about the below-cost sales issue from the southern point of view. I think that many who have followed this issue are reaching a point where the term "below-cost timber sales" conjures up a picture of a stand of aspen or alpine fir in a roadless area high in the mountains of Colorado, Idaho, or Montana. I am afraid that any action to resolve the problem might be based on this stereotype, and not take into account the differences found in other parts of the county. During the comments on the draft national forest plans, some of the southern national forests have been accused of promoting below-cost sales. What is done to resolve this issue in the West will likely impact us in the South.

II. THE SOUTHERN SITUATION

Unlike the western national forests, most of the land in the national forests in the southeastern region has been previously privately owned. Most of the George Washington National Forest was acquired by the Federal Government around 1935. Before that time, private land owners had cut most of the timber for charcoal. The bare hillsides were used for farming, grazing, or left fallow. The Government acquired the land with forest and watershed protection as its main objective. Fires were controlled, erosion stopped, and the land has subsequently recovered from serious problems. No effort, however, was made to regenerate the existing tree cover into economically desirable stands. Thus, today's timber stands are the result of 60-70 years of silviculture neglect. Many stands contain economically undesirable species such as striped maple or shegbark hickory.

Since there has been little silvicultural treatment of the stands, even stands with desirable species have many trees with undesirable or low value form. Low valued sales on the southern national forests are often the result of the Forest Service attempting to make these economically undesirable stands more desirable. This means that a good portion of these sales consist of contracts to thin undesirable or small diameter trees. While this treatment will make future sales more profitable, the initial sale simply cannot be as economically attractive as some might like. Thus, I wish to emphasize that: (1) this land is biologically productive; and (2) current cash flow problems result, not from trying to manage unproductive land, but from attempting to correct past land use patterns.

Another major difference is the roading issue. Roads are expensive in the southern national forests -- but generally not as expensive as in the West. The terrain is just not as rugged. In my opinion, much of the criticism of western timber sales comes from those who are trying to keep large tracts of unroaded land from becoming roaded. This is not the situation in the South. There are few large tracts of unroaded land left. People have lived on these lands for many years. Old roads and wagon trails are quite common. Limiting less profitable timber sales may provide wilderness advocates with an opportunity to have roadless areas reevaluated for wilderness designation on western forests. However, that opportunity does not exist, to anywhere near the same extent, on the southern national forests.

III. TIMBER INVESTMENTS IN THE SOUTHERN UNITED STATES

Some members of the environmental community have alleged that private lands in the South could meet the entire domestic demand for timber by the year 2030. This is simply not true. While demand for softwood is expected to grow by 60% over the next 50 years, timber growth and inventory in the South have peaked and are expected to decline significantly into the next century.

To be sure, the problem is not on forest industry lands. These lands continue to be managed more intensively, and are projected to account for an increasing share of the South's softwood timber harvest.

The decline in softwood timber growth, and hence inventory, can be attributed to four main factors: (1) a loss of commercial timberland to urban and other uses; (2) increased mortality due to forest pests; (3) an as yet unexplained decline in tree growth; and (4) a lack of regeneration on non-industrial private forest lands.

Of these four reasons, perhaps the most significant is the failure of non-industrial private landowners to plant following harvest. Currently, only one of every eight acres in the South is regenerated to softwoods by this owner group. Many of the acres not planted revert to undesirable hardwood species.

IV. THE WHITE OAK FLATS TIMBER SALE

I bring this timber sale to the attention of the Subcommittee because I think that it is useful to look at the kinds of decisions I have had to make as a purchaser of the sale. This example also illustrates the impacts of one timber sale on our local economy in this part of Virginia.

The single largest cost item contributing to below cost timber sales in our area is the way that the cost of new or reconstructed access roads for the removal of the purchased timber are accounted for. The Forest Service needs a usable road system is such areas in order to carry out the future management of the forest. Thus, the agency is willing to sacrifice some of its cash return on early timber sales in order to have an established road system to bring an area into management, and as an asset for the future management of the area. In the example below, we have a good example of past management decisions of this sort that are reaping present rewards.

WHITE OAK FLATS

TOTAL AREA 6,215 ACRES

	1977	1985	Total
Sale Area	177 Acres	261 Acres	438 Acres
% of Total Area	2.84%	4.19%	7.03%
$ Value Per Acre	$120.05	$357.63	
% Increase in Stumpage Value Comparing 1977 to 1985			297%
Miles of Road Constructed	3.39 Mi.	3.20 Mi.	6.59 Mi.
Timber Value Less Specified Road Cost	$12,884.65	$39,409.65	$52,294.28

White Oak Flats is comprised of six compartments of the George Washington National Forest, James River Ranger District, totaling 6,215 acres. It lies approximately one mile from Clifton Forge, Virginia and is bordered on two sides by paved roads, one being Virginia Interstate 64. The Forest Service management plan for the area is to manage it for multiple use. Access to the area prior to 1977 was limited to four-wheel drive vehicles on an existing low standard road that entered the area approximately three miles.

In November of 1977, the first timber sale was sold in the area, with 177 acres being harvested and 3.39 miles of specified road construction included in the sale package. The value of the timber sold at that time was $120.00 per acre. Return to the Forest Service was $12,884.00 in cash and 3.39 miles of traffic level C roads constructed with an asset value of $62,299.40. Although the cash value received was not enough to cover the cost of preparing the sale the Forest Service's biggest gain was the construction of a well designed road to be used: (1) for future management, including fire protection; and (2) by other forest users. This was the first timber sale sold in the James River District with specified road construction included in the contract. It was only the second sale of its kind sold on the George Washington National Forest.

On April 29, 1985 I was the highest bidder on the second White Oak Flats timber sale. This sale included 261 acres of timber to be harvested, and 3.2 miles of specified road construction. The value of the timber sold in this sale had increased to $357.63 per acre, an increase of 297% over the previous sale eight years earlier. Return to the Forest Service was $39,409.00 in cash and 3.2 miles of additional road construction. Although the return to the Forest Service in cash had increased considerably over the previous sale, it is doubtful the amount was enough to cover the total cost preparation. Again, beyond the opportunity to improve the quality of the remaining stand, the biggest gain to the Forest Service was the added access to be provided by the additional 3.2 miles of road construction with an asset value of $62,299.40.

Upon completion of the 1985 timber sale, a total of 438 acres of timber will have been harvested from the six compartments. This represents 7% of the total area, leaving 5,777 acres remaining uncut. Although $52,294.00 in cash was paid to the Forest Service over an eight year period their biggest gain was the 6.59 miles of access provided by a new and reconstructed road system having an asset value of $62,299.40. The management plan for this area calls for no additional level C road construction. Main access to the area has, thus, been provided by only the first two timber sales.

If harvesting of the remaining compartments is maintained at the current rate, it will take 227 years to complete the first rotation of the timber. Using today's values, $2,066,000.00 worth of timber is now accessible for harvest. Whatever rotation is used, the remaining sales have already been accessed, and will thus, undoubtedly be profitable.

Moreover, hunter access is no longer limited to owners of four-wheel drive vehicles, or people capable of making a ten mile roundtrip hike. The average sportsman can now enter the area, park, and with a minimal amount of walking, have access to 6,215 acres of hunting.

In this area from 1977 to 1984, seventy five individual permit firewood sales have been sold on a bid basis. These sales are designed to furnish enough fuelwood per sale to furnish one family firewood for two seasons of home heating. Because of the easy access provided by the new road, these sales bring a premium price. Usually only low quality trees are removed by a thinning method. Cash receipts paid to the Forest Service from these sales from 1977 to 1984 has been in excess of $15,000.00.

In addition, upon completion of the 1977 timber sale, the cut over areas were opened to the public for free firewood gathering. One Forest Service employee noted 76 pickup trucks for firewood gathering in one day in the area.

All of this is from an area that, prior to 1977, was inaccessible. This is not poor forest management. In my view, this is what forest management is all about. The preceding example is not a projection from a draft Forest Service plan. It is an example of future planning becoming a happy reality. It has already happened.

In my opinion the most impressive benefit from such timber sales is their beneficial effect on the local economy in my part of Virginia. If a local business, such as a gas station, grocery store, clothing store, or tire shop opens in our community, it is considered a gain for our local economy. But it must be taken into consideration that, for every $1.00 in gross sales the business does, approximately $.85 from that sale must leave the area to purchase the product that was locally sold. Only $.15 remains in the local economy. It is just the opposite with products harvested from timber sales in our area.

Based upon current market values, I can expect to receive in excess of $500,000.00 for the delivered products from my White Oak Plats Timber Sale. This is money paid to us in Virginia from furniture factories in North Carolina, South Carolina, Tennessee, Pennsylvania, West Virginia, Kentucky, and Maine for the lumber that will be delivered from our sawmill in Alleghany County. We then put this money into the local economy in the form of payrolls, fuel purchases, repairs, machinery purchases, and other purchases.

Using this theory, the White Oak Flats Timber Sale that I recently purchased will do as much for our local economy as $3,400,000.00 from other types of business receipts. In our area, forest products are one of the few commodities that we can: (1) start with as a raw product; (2) manufacture with local labor; (3) deliver outside of our community; and (4) sell to bring back money to be put into our local economy.

When all the benefits of a timber sale are considered their total value to a community can be easily seen. If the U.S. Forest Service is forced to take a short sighted, cash flow approach to forest management it will be a tremendous mistake. The total of the present and future benefits from timber sales far outweigh their cost of preparation.

I think the U.S. Forest Service should be commended for the farsighted and businesslike attitude it takes toward forest management.

Thank you.

STATEMENT FOR THE RECORD

OF

RICHARD WILHITE
LOGGING AND TIMBER MANAGER
GUY-BENNETT LUMBER COMPANY

ON BEHALF OF

THE NORTHWEST PINE ASSOCIATION

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I. INTRODUCTION

Good morning. I would like to thank Chairman Whitley and the members of the Subcommittee for allowing me to testify today. My name is Richard Wilhite. I am Logging and Timber Manager of Guy-Bennett Lumber Company in Clarkston, Washington.

I am also the President of the Northwest Pine Association in Spokane. Northwest Pine is a regional association of solid wood products manufacturers in eastern Oregon and eastern Washington. NWP's members are wholly or largely dependent upon federal lands for their raw material supply, and are thus vitally interested in the so-called "below cost" sales issue.

The below cost sales issue is also important to the local communities in our region, since most of the larger communities in which our members are located are on the east side of the Cascade Mountains and are dependent upon Forest Service timber for their economic base. Attached to my statement is a list of such dependent communities in our area, and an analysis of the importance of the Forest Service's programs to these communities.

Critics of timber sales on public lands claim that the Forest Service spends more on preparing and administering some timber sales than the sales return in revenue to the Treasury. Other speakers will discuss the cost side of the equation. Mr. Welling will indicate that much has been done and remains to be done to reduce Forest Service costs. Mr. Himmel will show that the Forest Service can enhance timber sale revenues by reducing the costs that are borne by the purchaser. I will talk about the revenue side of the equation. Specifically, I will discuss the role that the market for wood products plays in this issue.

II. BACKGROUND

Federal timber is sold as "stumpage" through auction. This means that potential buyers bid for the right to harvest the standing timber in a designated timber sale within a specified time period. In order to understand how the market affects the timber sale bid, it is important to understand a couple of points which may not be obvious from such a simple description of the process. First, the fact that stumpage is bid in an open market means that the stumpage is sold at market value. Some have claimed that Federal timber sales constitute a "subsidy" to the timber industry. Since timber is sold at market value, these claims are unfounded -- the timber is bid to the highest price the market will bear.

Second, the bid is based on the costs of cutting, transporting, and milling the timber as well as the purchaser's estimate of prices for the finished products by the time the sale is actually harvested. Thus, the market value for Federal timber is directly related to probable, near-future prices for solid wood products.

III. THE SOLID WOOD PRODUCTS MARKET

About 60% of the solid wood production is used in new construction. Until recently, in fact, housing starts have been successfully used as a predictor of lumber prices. Figure 1 shows that when housing starts fell in 1980 in response to the extremely high interest rates, lumber prices fell dramatically as well. The graph indicates that, while the housing market began to recover from the recession in mid 1982, lumber prices have not yet recovered from the impacts of the recession. The Random Length composite -- a lumber price index used by many in the industry -- was 10% lower in January 1985 than in January 1980, despite 28% inflation during the same period.

Depressed lumber prices are primarily due to increased capacity and Canadian imports. U. S. producers planned large investments in the late 1970's in anticipation that housing starts would average around 2 million single family units per year in the 1980's. These investments, along with other cost reductions, mean that more lumber can be manufactured at a lower cost. Output per employee hour in U.S. sawmills and planing mills increased at an average annual rate of 4.1% between 1978 and 1983 -- two points higher than the manufacturing sector as a whole.

Notwithstanding these increases in domestic productivity, during the recession the Canadian forest products industry increased its share of the U.S. market. Today, almost 31% of the lumber consumed in the U.S. comes from Canada. In 1975 the comparable figure was 19%.

My purpose today, however, is not to discuss remedies to the import problem. Rather I wish to demonstrate that current prices are depressed and that the timber profitability issue -- for the Forest Service or any other landowners -- is tied directly to the condition of the wood products market.

IV. EFFECTS OF THE MARKET ON THE PROFITABILITY OF FOREST SERVICE TIMBER.

Attached to my testimony is a table (Table 1) which shows how Forest Service timber sale receipts have changed through time.

Bids for National Forest stumpage took a substantial fall in 1982 -- about two years after lumber prices fell -- primarily because the industry viewed low lumber prices as temporary a phenomenon. As it became evident that lumber prices would stay low for awhile, average National Forest stumpage prices fell almost 60%.

For reasons which Mr. Sitts outlined, it is difficult to find a proper cost figure to compare to these revenue figures to examine how much, if any, timber is sold "below cost." Thus the industry is not, at this time, advocating such a comparison. It should be obvious, however, that even without generally agreed upon cost figures, sales were most likely more profitable to the government before the recession than they are currently.

V. POLICY IMPLICATIONS OF MARKET TRENDS

In order to obtain enough volume to continue operating and to pay fixed expenses, many purchasers of Forest Service timber are "bidding out" their profit margin. By this, I mean they are increasing their bids to the point where only their fixed and/or variable costs are covered by the sale of the final product. Consequently, only 30% of the mills, with which I am familiar have made a profit in the last 3 years. However, many in the industry believe that this situation will not last.

As I stated before, the current depression in lumber prices is due, in part, to overcapacity. In the short run, it is reasonable to believe that some portion of the domestic overcapacity will disappear as mill owners begin to confront the impacts of sustained financial losses. Those mills which are less efficient are likely to disappear. We also believe some resolution to the Canadian import problem will be forthcoming. Today, David Stahl, President of NFPA, is testifying before the

Subcommittee on Trade of the House Ways and Means Committee and urging Congress to take action to alleviate the existing trade imbalance between Canada and the United States. Attached for the record is the copy of his testimony. Resolution of the Canadian import problem will also serve to reduce the overcapacity problem, thus strengthening the wood products market.

Furthermore, we expect the wood products market to continue to enjoy high demand. Lumber consumption reached an all time high in 1984. Panel consumption was near record levels. The Forest Service's RPA Assessment Supplement projects a 60% increase in demand by 2030.

We believe, then, that as the current overcapacity begins to disappear and demand remains strong, final product prices will rise enough so that stumpage prices will increase to the point where the profitability of most federal timber sales -- by whatever the measure -- will no longer be a issue.

This Subcommittee has before it some very important and very fundamental policy questions with respect to the Forest Service's timber sale program. What role should the Forest Service play in the production of commodity outputs? How should the Forest Service respond to a drop in stumpage price?

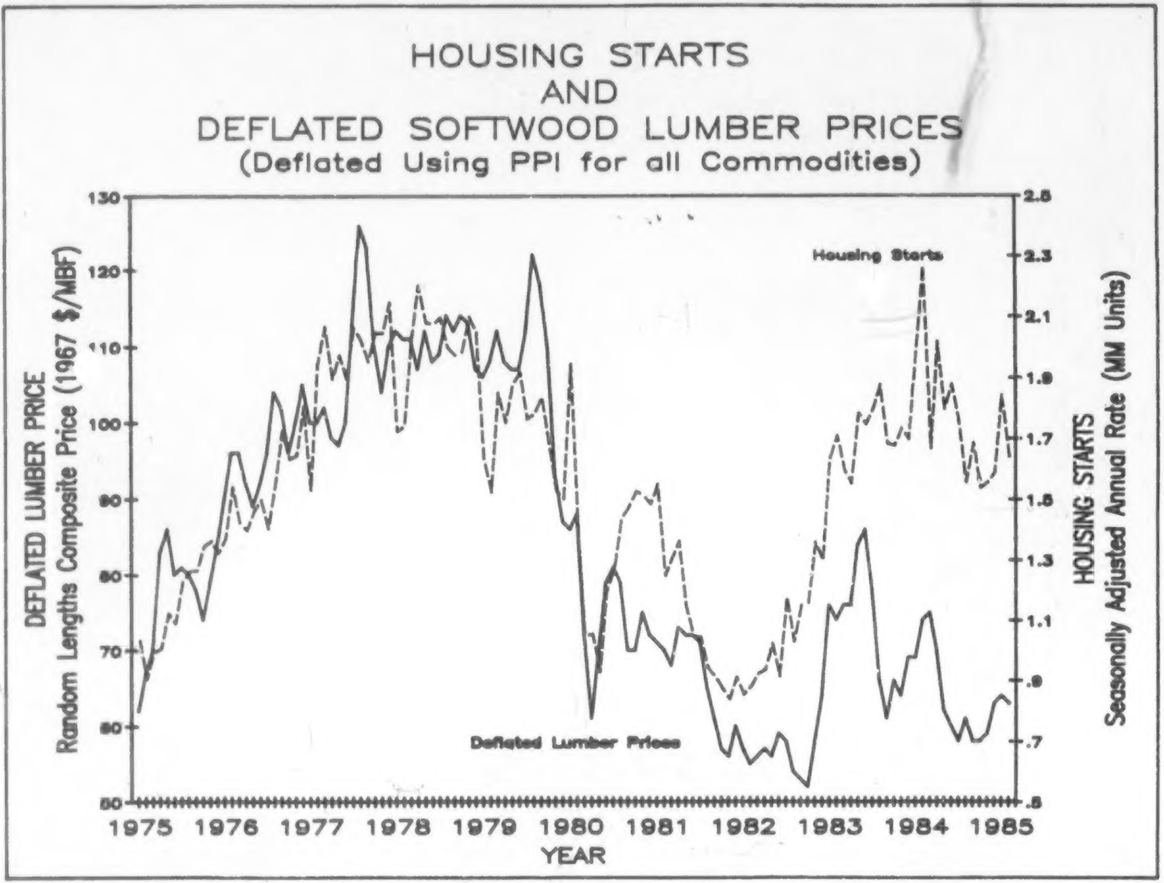
It is important that the Subcommittee reflects on the nature of commodity markets before contemplating any major changes to the Forest Service's timber sale program. The timber commodity market is volatile. Most cycles are seasonal, but the ongoing timber market recession shows that prices can stay low for longer periods of time than previously anticipated. In the face of tight markets, my company and many others have made investments to make our operations more cost efficient. We commend the Forest Service for any similar efforts they have made in this regard, and urge them to pursue this avenue further. My company, and other companies in the industry, feel that in order to be competitive, we need to continue to operate, even if it means short term losses. Like farmers, we must continue to produce when prices are low if only to cover fixed costs.

We look at the Forest Service as a partner in this commodity market. The Forest Service manages about 60% of the standing softwood timber nationally and a much greater percentage in the West. We hope that the Forest Service will weather this storm with us and look forward to the day when short term profits are more obvious to both participants in the commodity market, as well as to reviewers of federal timber sales policy.

TABLE 1

VOLUME AND VALUE OF TIMBER SOLD FROM THE NATIONAL FORESTS

YEAR	VOLUME SOLD (BBF)	VALUE (Million $)	$/MBF
1979	11.3	1,962.6	173.68
1980	11.3	1,948.7	172.45
1981	11.5	1,767.7	153.71
1982	10.0	614.2	61.42
1983	11.1	744.4	69.77
1984	10.7	698.7	65.30



HOUSING STARTS
AND
DEFLATED SOFTWOOD LUMBER PRICES
(Deflated Using PPI for all Commodities)

Following is a list of companies which operate in Eastern Oregon and Eastern Washington that are primary manufacturers of timber from the National Forests. They are shown by town and company, and only those which are primary manufacturers are listed. Most of the communities named below are heavily dependent on Forest Service timber for their survival. Many remanufacturing facilities, millwork facilities and box companies are dependent on the primary products manufactured by these mills. This list is for Eastern Oregon and Eastern Washington only.

EASTERN OREGON

Baker
Ellingson Lumber Company

Bend
DAW Forest Products Company

Chiloquin
Chiloquin Forest Products

Cove
Peacock Lumber Company

Elgin
Boise Cascade Corporation

Gilchrist
Gilchrist Timber Company

Heppner
Kinzua Corporation

Hines
Snow Mountain Pine Company

John Day
John Day Lumber Company
Malheur Lumber Company

Joseph
Joseph Forest Products
Wallowa Lake Forest Industries

Klamath Falls
Columbia Plywood Corporation
Dyer Mountain Lumber Company
Gregory Forest Products
Modoc Lumber Company

Klamath Falls (Con't.)
Thomas Lumber Company
Weyerhaeuser Company

LaGrande
Boise Cascade Corporation
Crisstad Enterprises, Inc.

Lakeview
Fremont Sawmill Company
Lakeview Lumber Company
Precision Pine Company

LaPine
Russell Industries, Inc.

Pendleton
Blue Mountain Forest Products
Harris Pine Mills

Pilot Rock
Louisiana-Pacific Corporation
USG Industries, Inc.

Prairie City
Prairie Wood Products

Prineville
Consolidated Pine, Inc.
Louisiana-Pacific Corporation
Ochoco Lumber Company
Pine Products Corporation

Umatilla
Forest Recovery, Inc.

Wallowa
Rogge Lumber Company

EASTERN WASHINGTON

Arden
Plum Creek Timber Company, Inc.

Cashmere
W-I Forest Products Company

Clarkston
Guy Bennett Lumber Company

Colville
Chopot Lumber Company
Vaagen Brothers Lumber Company

Goldendale
Boise Cascade Corporation

Ione
Vaagen Brothers Lumber Company

Kettle Falls
Boise Cascade Corporation
Brauner Lumber Company

Klickitat
Champion Forest Products

Naches
Layman Lumber Company

Newport
Northwest Conifer Company

Northport
Frazier Building Materials, Inc.

Omak
Crown Zellerbach Corporation

Oroville
Zosel Lumber Company

Peshastin
W-I Forest Products Company

Republic
Vaagen Brothers Lumber Company

Roslyn
Alpine Veneers, Inc.

Usk
Forest Enterprises, Inc.

Walla Walla
Louisiana-Pacific Corporation

White Swan
White Swan Lumber Company

Yakima
Boise Cascade Corporation

STATEMENT FOR THE RECORD

OF

RICHARD MALBURG

RICHARD MALBURG LOGGING

ON BEHALF OF

THE MICHIGAN ASSOCIATION OF TIMBERMEN

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

My name is Richard Malburg. I appreciate the opportunity to testify today. I run a logging company in Hart, Michigan. I am also a former director of the Michigan Association of Timbermen. The Timbermen represent over 600 small businesses in Michigan's forest industry. Half of our members are loggers and the balance are wood processing companies. I would like to thank the chairman and the Committee for permitting me to testify today.

Michigan has 17.5 million acres of commercial forests, which ranks fifth in the United States. National forests make up 14% of this total.

Michigan forests are as diverse as any in the nation. They have more tree species, more wildlife species, and more different soil types than most. This unique diversity creates a wide variety of forest uses that provide many leisure time and economic development opportunities for the citizens of our state and the entire Midwest.

The national forests have traditionally been managed under multiple-use principles that have produced timber products, habitat for deer, wild turkey, endangered species such as the Kirtland's Warbler, developed camp sites, primitive camping, and scenic river areas. Management of our national forests incorporates measures that are designed to protect the sensitive Lake States watershed.

Although the national forests in Michigan contain and produce multiple resources, they are vastly different from the forests in the West. For instance, a large portion of the Western national forests are in the "first entry" stage of management. In Forest Service Region 1 (Montana, Northern Idaho), for example, only 50% of the commercial forestland is roaded. Whereas Michigan's forests, on the other hand, have virtually all been harvested or burned at least once in the past 100 years. It is because Michigan's timberlands were inadequately managed in the past that we now must incur the costs of restoring the forests to a healthy state.

Thus, much of the timber harvesting in Michigan is actually a primary management tool for regenerating healthier stands, creating openings and food for wildlife, and providing access for recreation use. While there may be some dispute about the benefits of timber harvesting for wildlife in other areas, our state Department of Natural Resources Wildlife Management Division supports timber management as a means of creating wildlife openings and maintaining habitat diversity.

Because Michigan's national forest lands were not intensively managed in the past, and because of its multiple use mandate, the Forest Service now incurs relatively high costs when it prepares a timber sale. However, the long term benefits from the forests will greatly exceed the costs. For example, the preferred alternative in the draft national forest plan for the Huron-Manistee National Forest shows that the present net value of total resource benefits will exceed costs by $907 million. Over 20% of those benefits are revenues generated directly from the timber sale program. The analysis of the management situation on the Huron-Manistee clearly showed that -- given the Forest Service's current accounting system -- timber can be grown profitably in a way that meets multiple use requirements on this national forest.

This is not to say that Forest Service costs are not high or their requirements complex. I will submit for the record roughly similar U.S. Forest Service and Michigan Forest Management Division timber sales that I purchased. The Forest Service sale has 124 pages of instructions, the Michigan sale has only 6 pages. The value of the state sale was over $46,000. The Forest Service timber had a value of just under $19,000.

Although the national forests only make up 14 percent of the forest land acreage in Michigan, these forests play a vital role in our local economy. I would hope that expanding, not limiting the use of the national forests would be the objective of this Subcommittee and of Congress overall. The citizens of present and future generations are best served under multiple-use practices. Those of us who harvest timber for a living love the forest. We see it reproduce and grow. Our families from the youngest to the oldest go to the forest to relax and play. We meet other families there from all parts of Michigan and the United States. As a logger, I am required to perform the very best quality work on the national forest as I harvest timber or perform prescribed forestry work on young stands of timber.

The Huron-Manistee National Forest in which I work provides both a playground and a source of employment. Multiple-use management gives the average person the best mix of forest products and recreation opportunities. It has served us all very well for many generations.

This concludes my remarks. I will be glad to answer any questions that the Subcommittee might have. Thank you.

(The attachment follows:)

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
STATE FOREST TIMBER SALE CONTRACT

SALE TYPE 1 = Public, 2 = Local

CONTRACT NO: [illegible] YEAR: [illegible]

STATE FOREST AND FOREST AREA: Pere Marquette - Baldwin Area CODE: [illegible]

COMPARTMENT: [illegible]

PURCHASER (LAST, FIRST, MIDDLE): [illegible]

SOC. SEC. OR FED. I.D. NO.: 369-42-[illegible]

STANDS CODE NO: [illegible]

ADDRESS (NUMBER AND STREET): Route 2 (CITY): [illegible] (STATE): MI (ZIP CODE): 49[illegible]

COUNTY: Lake CODE: [illegible]

DESCRIPTION COVERED BY CONTRACT: T [illegible] R 12 W [illegible] (TIMBER [illegible] SEC. [illegible])

TYPE OF CUT: Clearcut CODE: [illegible]

AREA (Acres): [illegible]

BOND TYPE: 1 = Cash 2 = Surety 3 = Other (specify) CODE: [illegible] DATE ISSUED: 07/16/84 DATE EXPIRED: [illegible]/30/86

AMOUNT OF BOND: $ [illegible]

ESTIMATED VALUE: $ 33,469.20

BID VALUE: $ 46,[illegible].00

DOWN PAYMENT (10% of Bid Value): $ 4,630.24

PAYMENT SCHEDULE: The bond and 10% of sale value as down payment must be paid within 14 days of the sale date. If no cutting takes place the down payment will not be refunded. Cutting in any sale without the required advance payment will be considered a trespass.

☐ SINGLE UNIT SALE. The 10% down payment will be applied toward total Bid Value. The remainder of Bid Value must be paid before cutting begins.

☒ MULTIPLE UNIT SALE. The 10% down payment will be applied toward first unit to be cut. Payment for value of a unit must be made before cutting begins in that unit. Unit values are listed below.

No. 1 $ 6,945.36	No. 2 $ 12,964.672	No. 3 $ 12,964.672	No. 4 $ 13,427.696	No. 5 $
No. 6 $	No. 7 $	No. 8 $	No. 9 $	No. 10 $
No. 11 $	No. 12 $	No. 13 $	No. 14 $	No. 15 $
No. 16 $	No. 17 $	No. 18 $	No. 19 $	No. 20 $
No. 21 $	No. 22 $	No. 23 $	No. 24 $	No. 25 $

TYPE OF PAYMENT: (1) = Lump Sum (2) = Stumpage Withholding (3) = Scale at CODE: 1

CUTTING SPECIFICATIONS AND SPECIAL CONDITIONS:

Within the red painted boundaries cut all aspen, oak, and red maple containing commercial value; do not cut black cherry.

There shall be no decking or loading outside the red boundaries without permission of the Area Forest Manager's Office.

PRODUCTS AND PRICES

SPECIES	CODE	PRODUCT	CODE	UNIT	CODE	UNIT PRICE	ESTIMATED VOLUME
Aspen	12	Pulpwood	02	Cord	[illegible]	12.[illegible]	[illegible] 00
Oak	70	Pulpwood	02	Cord	02	13.[illegible]	1,[illegible] 00
Red maple	03	Pulpwood	02	Cord	02	7.[illegible]	[illegible] 791
Oak	70	Sawlogs	01	MBF	01	[illegible]	170 000

I hereby agree to purchase from the State of Michigan at the rate and in strict conformity with all and singular requirements and conditions as set forth above, all the timber designated for cutting under the terms of this contract from above described lands. I have read the conditions governing this contract including conditions 1 through 18 on reverse side hereof, and agree to abide by them in the conduct of my operations.

APPROVED BY DEPARTMENT OF NATURAL RESOURCES, STATE OF MICHIGAN

7-27-84
AREA FOREST MANAGER Lynn B. Mohr DATE

8-6-84
AUTHORIZED DEPARTMENT OF NATURAL RESOURCES REPRESENTATIVE DATE

Richard J. [illegible] 7-27-84
SIGNATURE OF PURCHASER DATE
Richard J. [illegible]

DISTRIBUTION OF COPIES
WHITE—DIVISION OFFICE, LANSING. CANARY—PURCHASER. BLUE—AREA FOREST MANAGER. GREEN—DISTRICT FOREST MANAGER. WHITE—HABITAT BIOLOGIST

[illegible] PR 4021
Rev. 12/83

THE FOLLOWING CONDITIONS AND REQUIREMENTS CONSTITUTE A PART OF THIS CONTRACT

1 **NOTIFICATION.** The purchaser shall notify the Area Forest Manager of the Department of Natural Resources before cutting begins.

2 **INCLUDED TIMBER.** The State of Michigan agrees to sell, and the purchaser agrees to purchase and cut all included timber as located, described and designated on this contract and as shown on the sale area map, if one is available. Cutting or removal of any forest products not specifically included or covered by this contract shall be a violation of Act 128, P.A. 1939.

3. **TITLE:** Title to all timber included in this sale shall remain in the State of Michigan until it has been felled, scaled, measured or counted and paid for.

Cut forest products remaining on the state land six months after timber sale expiration date will become the property of the State of Michigan unless permission is received from Department of Natural Resources.

4 **SCALING:** Timber will be placed for measuring as instructed by the Area Forest Manager or his representative, and no timber will be removed from the place designated until scaled, measured or counted, and paid for at the indicated stumpage rates. The Area Forest Manager may, at his discretion, authorize the measurement of, and payment for materials by other means under such safeguards as he may require. All logs will be scaled by the International Log Rule unless another method is specified under INSTRUCTIONS FOR SCALING.

5 **ROADS, SKID TRAILS, LANDINGS:** Locations and specifications of roads, skid trails, and landings will be determined by the Department of Natural Resources prior to their construction. Upon completion of the sale, roads will be left in a condition equal to, or better than they were before the sale. Timber within the agreed upon construction limits is designated for cutting and will be paid for according to the designated rates.

6 **SURVEY CORNERS:** The purchaser shall protect all known land survey monuments, and their witness trees from damage or obliteration. If such corners are destroyed, the purchaser shall pay the costs of restoration.

7 **SLASH:** In accordance with the provisions of Act 35 of the Public Acts of 1955, all slash shall be disposed of on lands within 60 feet of the cleared portion of any road or highway under the jurisdiction of the Department of Transportation or a county road commission. Unless otherwise indicated elsewhere in this contract, slash shall be left as it falls, except that no tops shall be left hanging in standing trees. Where slash disposal is required, it shall be effected as cutting progresses.

8 **FIRE PRECAUTIONS:** The purchaser and his employees shall do all in their power to prevent and suppress forest fires.

9 **UTILIZATION:** Unless otherwise indicated on this contract, trees shall be utilized to a top diameter inside bark of 8 inches for sawlogs, and 4 inches for pulpwood. Stump height shall be as low as practical to secure good utilization. Unless otherwise specified, the maximum stump height shall not exceed 24 inches for sawlogs or 12 inches for pulpwood.

10 **PENALTY:** (A) Unmarked or undesignated live trees which are cut or injured through carelessness or negligence, and marked or designated trees left uncut, shall be paid for at double the stumpage rate specified on the reverse side of this contract. If the stumpage rate is not specified on this contract, it shall be paid for at double the rate of the average stumpage price received on the forest for that species, product and grade, but such payment shall not release the purchaser from liability to the State of Michigan for damage other than the value of said trees.

(B) Work may be suspended or the contract cancelled by the Area Forest Manager if the conditions and requirements herein are disregarded. Failure to comply with any one of the conditions will be sufficient cause for cancellation of this contract. All money paid under this contract and all stumpage or forest products remaining on the area at the time of termination may be retained by the State to satisfy the purchaser's obligation hereunder.

11 **CLEAN UP:** At the termination of the logging operations all camps and equipment shall be removed. All debris resulting from operations shall be disposed of to the satisfaction of the Area Forest Manager.

12 **PERFORMANCE BOND:** As a guarantee of faithful performance of the conditions of this agreement, the purchaser delivers herewith a cash or surety bond in the sum indicated on the reverse side. As soon as security for the performance of the terms of this agreement or the settlement of claims incident thereto is no longer necessary, deposits in lieu of surety or cash bond will, subject to the conditions set forth in the sentence immediately following, be returned to the purchaser. The purchaser agrees that all monies deposited under this agreement may upon failure on his part to fulfill all and singular the requirements herein set forth or made a part hereof, be retained by the State of Michigan to be applied as far as may be to the satisfaction of his obligations assumed hereunder, without prejudice whatever to any rights and remedies of the State of Michigan.

13 **LIABILITY.** The Department of Natural Resources and the State of Michigan and their agents, servants, and employees, shall not be held liable for any injury or damage suffered by the purchaser resulting from the use of the premises herein described or arising out of the performance of any act or thing required by the terms of this contract, and the purchaser does hereby release and discharge the Department of Natural Resources and the State of Michigan, and their servants, agents and employees from any claims or demands that he may have of whatsoever kind and nature in any manner arising out of any matter or thing related to this contract or the premises described; and the purchaser covenants and agrees with the Department of Natural Resources and the State of Michigan that he will indemnify and save harmless the said Department of Natural Resources and the State of Michigan, their servants, agents and employees, from any claims and demands that any person may have or make in any manner arising out of any matter or thing related to this contract or the premises described.

14 **DISCHARGE OF EXPLOSIVES:** If Purchaser expects to discharge explosives, excavate or tunnel in a street, highway, public place, a private easement of a public utility, or near the location of a public utility facility, or demolish a building containing a public utility facility, you shall give notice to the public utility in accordance with Act 53, Public Acts of 1974, Compiled Laws 460.701 to 460.718, and likewise comply with each of the requirements of that act as may be applicable.

15 **PAYMENTS:** Material cut under this contract shall be paid for according to conditions specified by contract. Checks, money orders, or drafts shall be made payable to the State of Michigan and submitted to the Area Forest Manager. The Area Forest Manager shall issue an official Department of Natural Resources pre-numbered receipt for each payment received.

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
TIMBER CUTTING REPORT

(Sale Type 1 = Public, 2 = Local)
SALE NO C | YEAR | SALE TYPE: 081 | [illegible] | 1

STATE FOREST AND FOREST AREA: Pere Marquette - Baldwin | CODE: 63

COMPARTMENT NO | CODE: 021

PURCHASER (LAST, FIRST, MIDDLE): HALBURG, RICHARD J.

SOC. SEC. OR FED. I.D. NO: 369-42-6325

STAND(S) CODE NUMBERS: [illegible]

ADDRESS (NUMBER AND STREET): Route 2 | (CITY) Hart | (STATE) MI | (ZIP CODE) 49420

COUNTY: Lake | CODE: 43

DESCRIPTION COVERING [redacted] T. 18 N, R. 12 [redacted], 01, NW¼ (TOWERLINE NO. 1 SALE)

YEAR OF ENTRY: 84

(Additional description)

Sec. | Sec.

TYPE OF CUT: Clearcut | CODE: 1

FINAL STATUS 1 = Complete, 2 = Closed, 3 = Cancelled | CODE: 1 | DATE MO 10 DAY 29 YEAR 84

BOND TYPE 1 = Cash, 2 = Surety, 3 = Ltr. of Dep. | CODE: 1 | AMOUNT $ 5,000.00

ACRES CUT: 097.0

DISPOSITION OF BOND: 1. REFUND $ 5,000.00 | 2. CREDIT TO TIMBER $ | 3. FORFEIT $ | 4. HOLD FOR FUTURE CONTRACT $

OFFICIAL RECEIPT NO: 030455 | RECEIPT DATE MO 07 DAY [illegible] YEAR 84

SPECIES	CODE	PRODUCT	CODE	UNIT	CODE	UNIT PRICE	VOLUME	VALUE	REMITTANCES DATE	REMITTANCES AMOUNT
Aspen	12	Pulpwood	02	Cord	02	13.95	892.00	12,443.40	07/31/84	5,000.00
Oak	70	Pulpwood	02	Cord	02	13.95	1,816.00	25,333.20	07/31/84	6,945.36
Red maple	03	Pulpwood	02	Cord	02	7.45	38.791	289.00	08/10/84	13,427.70
Oak	70	Sawlogs	01	MBF	01	46.80	176.000	8,236.80	09/05/84	12,964.67
									10/05/84	12,964.67
								Less Bond		5,000.00

If sale is closed or cancelled; or if performance bond is to be retained, give reason below.

TOTAL REMITTANCES $ 46,302.40

BID VALUE $ 46,302.40

You are hereby informed that the above mentioned State Forest Timber Sale Contract is terminated. No further cutting is authorized. The quantities removed and the remittances submitted are listed above.

SIGNED
AREA FOREST MANAGER

10-30-84
DATE

COPY DISTRIBUTION:
Original — Forest Management, Lansing
1st Copy — Purchaser
2nd Copy — Area Forest Manager
3rd Copy — District Forest Manager
4th Copy — Wildlife Biologist

PR [illegible]
Rev. [illegible]

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICIAL RECEIPT

No. 030477

TOWERLINE NO. 1 SALE: Unit III

	SPECIES	PRODUCT	UNIT		RATE	QUANTITY	VALUE
Aspen pulpwood	1 2	0 2	Cd	0 2	13.95	249.76	3,484.15
Oak pulpwood	7 0	0 2	Cd	0 2	13.95	508.48	7,093.30
Red maple pulpwood	0 3	0 2	Cd	0 2	7.45	10.86	80.92
Oak sawlogs	7 0	0 1	MBF	0 1	46.80	49.280	2,306.30

RECEIVED FROM

Richard J. Malburg
Route 2
Hart, MI 49420

TOTAL $ 12,964.67

DIVISION AND NAME OF UNIT: FOREST MGMT.DIVISION-Baldwin Area

UNIT CODE: 6 3

PERMIT: NUMBER 0 1 1 YEAR 8 4 TYPE 0 1 SALE TYPE 1

DATE OF RECEIPT: MO 0 9 DAY 0 5 YEAR 8 4

COUNTY: Lake

COUNTY CODE: 4 3

PAYEE SOC SEC OR FED ID NO: 3 6 9 4 2 6 3 2 5

R 1420

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICIAL RECEIPT

No. 030494

DESCRIPTION OF PURPOSE	SPECIES	PRODUCT	UNIT		RATE	QUANTITY	VALUE
TOWERLINE NO. 1 SALE: Unit II							
Aspen pulpwood	1 2	0 2	Cd	0 2	13.95	249.76	3,484.15
Oak pulpwood	7 0	0 2	Cd	0 2	13.95	508.48	7,093.30
Red maple pulpwood	0 3	0 2	Cd	0 2	7.45	10.86	80.92
Oak sawlogs	7 0	0 1	MBF	0 1	46.80	49.280	2,306.30

RECEIVED FROM

Richard J. Malburg
Route 2
Hart, MI 49420

TOTAL $ 12,964.67

DIVISION AND NAME OF UNIT: FOREST MGMT.DIVISION-Baldwin Area

UNIT CODE: 6 3

PERMIT: NUMBER 0 1 1 YEAR 8 4 TYPE 0 1 SALE TYPE 1

DATE OF RECEIPT: MO 1 0 DAY 0 5 YEAR 8 4

COUNTY: Lake

COUNTY CODE: 4 3

PAYEE SOC SEC OR FED ID NO: 3 6 9 4 2 6 3 2 5

R 1420

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICIAL RECEIPT

No. 030466

DESCRIPTION OF PURPOSE	SPECIES	PRODUCT	UNIT		RATE	QUANTITY	VALUE
TOWERLINE NO. 1 SALE: Unit IV							
Aspen pulpwood	1 2	0 2	Cd	0 2	13.95	258.68	3,608.59
Oak pulpwood	7 0	0 2	Cd	0 2	13.95	526.64	7,346.62
Red maple pulpwood	0 3	0 2	Cd	0 2	7.45	11.25	83.81
Oak sawlogs	7 0	0 1	MBF	0 1	46.80	51.040	2,388.67

RECEIVED FROM

Richard J. Malburg
Route 2
Hart, MI 49420

TOTAL $ 13,427.70

DIVISION AND NAME OF UNIT: FOREST MGMT.DIVISION-Baldwin Area

UNIT CODE: 6 3

PERMIT: NUMBER 0 1 1 YEAR 8 4 TYPE 0 2 SALE TYPE 1

DATE OF RECEIPT: MO 0 8 DAY 1 0 YEAR 8 4

COUNTY: Lake

COUNTY CODE: 4 3

PAYEE SOC SEC OR FED ID NO: 3 6 9 4 2 6 3 2 5

R 1420

Page 3.

TOWERLINE NO. 1 (011-84-01) SPECIFICATIONS:

A timber sale contract for this LUMP SUM timber sale will be awarded the responsible bidder offering the highest sealed bid price. Bids must be at or above the following minimum bid price for each species:

	Species	Estimated Volume*	Minimum Bid	
	Pulpwood			
7046.80	a) Aspen	892.00 Cords	$ 7.90 Cord	13,380.00
17887.60	b) Oak	1,816.00 Cords	9.85 Cord	27,240.00
8236.80	Sawlogs			8236.80
29800	a) Oak	176.000 MBF	46.80 MBF	

In addition, the successful bidder agrees to purchase the following species at the indicated base price:

Species	Estimated Volume*	Unit Price	
Pulpwood			
a) Red Maple	40.00 Cords	$ 7.45 Cord	298.00
			$49,154.80
			46 846
			3310

*These estimated volumes are final and not subject to adjustment. Prospective bidders are urged to examine this timber and to make their own estimates of quantity and quality.

Cutting Specifications:

Within the red painted boundaries cut all aspen, oak, and red maple containing commercial value; do not cut black cherry.

There shall be no decking or loading outside the red boundaries without permission of the Area Forest Manager's Office.

Bond and Payment Schedule:

120 Acres 3100 cd 25.83 cd per Acre

$409.62 per Acre

15.85 per cd.

1. A bond of $5000.00 to insure faithful performance of the conditions of the contract, will be deposited by the successful bidder within 14 days of the sale date.
2. If no cutting takes place, the 10% down payment will not be refunded.
3. Cutting in any sale or unit without the required advance payment would be considered a trespass.
4. Total payment must be paid at once or according to the following schedule.
5. Ten percent (10%) of the sale value must be paid within 14 days of the sale date.
6. The 10% down payment will be credited toward the first unit cut.
7. Payment for each of the following units must be made before cutting begins in that unit.
8. Payment Unit Number / Percent of Total Sale Value

Payment Unit Number	Percent of Total Sale Value
I	15%
II	28%
III	28%
IV	29%

Operations on the contract issued will terminate on September 30, 1986.

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE MAP

SALE NO 011 YEAR 84 SALE TYPE 1

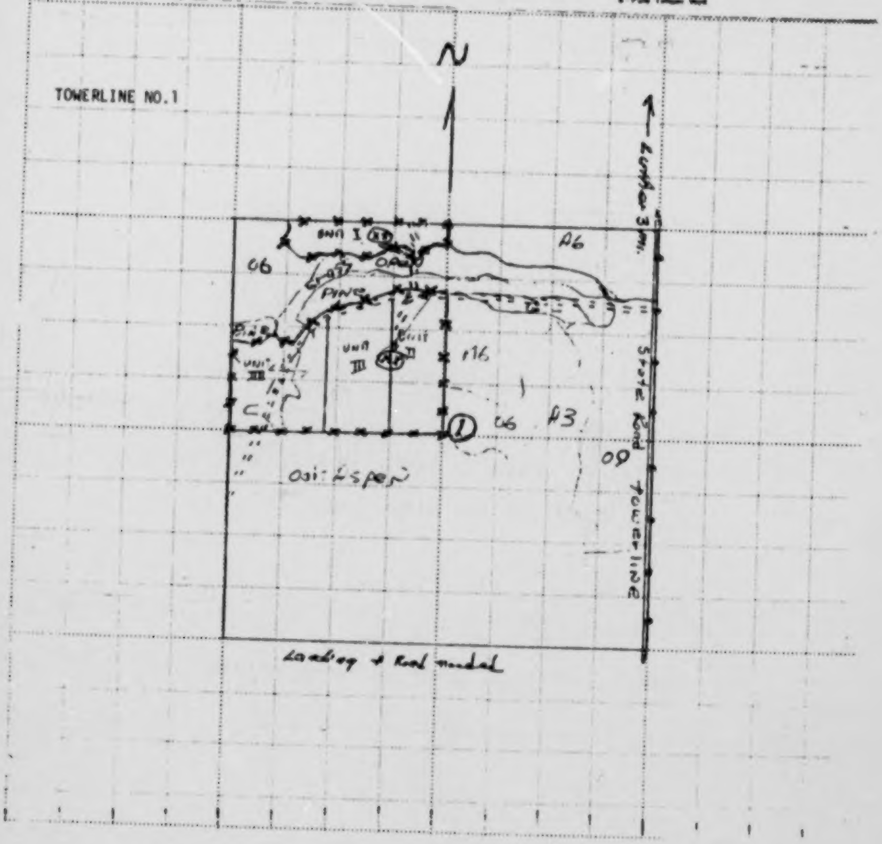
STATE FOREST AND FOREST AREA Pere Marquette - Baldwin Area	MAPPED BY Francis E. Helsel	DATE 09/1983
T 18 N R 12 W Section(s) 01	Sub NW¼	Scale 1 inch - 1/4 mile

COVER TYPE

A - Aspen
B - Paper Birch
C - Cedar
D - Swamp Hdwds
E - Spruce Fir
G - Grass
H - Hemlock
J - Jack Pine
L - Lowland Brush
M - Mpl. Bch. Birch
N - Marsh
O - Oak
P - Lowland Poplar
Q - Mx Swamp Conifer
R - Red Pine
S - Black Spruce
T - Tamarack
U - Upland Brush
V - Bog or Marsh
W - White Pine
X - Non Stocked
Z - Water

DENSITY

1 - Non Stocked
2 - Seedling Sapling Poor
3 - Seedling Sapling Well
4 - Pole Timber Poor
5 - Pole Timber Medium
6 - Pole Timber Well
7 - Saw Timber Poor
8 - Saw Timber Medium
9 - Saw Timber Well


TOWERLINE NO.1
N
Lumber 3 mi.
Unit I
A6
06
Oak
Pine
Unit III
Unit II
16
C4
1
06
A3
09
Oak-Aspen
State Road
Towerline
Landing & Road needed

STATEMENT FOR THE RECORD

OF

GREG McGUIRE
DISTRICT TIMBERLANDS MANAGER
BOISE CASCADE CORPORATION

ON BEHALF OF
THE FOREST INDUSTRIES REGION 6 ROADS SUBCOMMITTEE

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE OF AGRICULTURE

OF THE
UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I. INTRODUCTION

Good morning. I would like to thank Chairman Whitley and the Subcommittee for giving me the chance to testify today on the profitability of the U.S. Forest Service timber sale program. My name is Greg McGuire. I am a Timberlands Manager for the Boise Cascade Corporation in Yakima, Washington.

I also speak as a graduate forest engineer with over 15 years of experience with private land management and the purchase of public timber. My current responsibilities include purchasing and harvesting approximately 60 million board feet of public timber a year, and the management of 50,000 acres of private land on the eastern slope of the Washington Cascades. We spend over $1,000,000 for Forest Service road construction per year.

I am also the Chairman of the Forest Industries Region 6 Roads Subcommittee -- an ad hoc group concerned about national forest roads in Oregon and Washington. Most of our members are partially or wholly dependent upon raw material from lands managed by the U.S. Forest Service. As Chairman of the Region 6 Roads Subcommittee, I have had the opportunity to become very familiar with one aspect of this issue -- road costs. As we have compared Forest Service road costs to road costs on private lands, one point has become increasingly obvious to me: the Forest Service's multiple use mandate is not cost free. My testimony today will focus on why and how the multiple use mandate makes management of our National Forests more expensive.

II. THE MULTIPLE USE MANDATE

In the Multiple Use - Sustained Yield Act of 1960, Congress directed the Secretary of Agriculture to:

> "develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom."
>
> "'Multiple Use' means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

The National Forest Management Act of 1976 reaffirms and strengthens the multiple use mandate by requiring an interdisciplinary planning team to consider various resource issues when planning activities on the national forests. The National Environmental Policy Act does not provide specific direction about how resources should be managed, but it does require that effects of management activities be carefully analyzed, displayed, and considered in the Forest Service's decisionmaking process, thus strengthening the multiple use mandate.

The current controversy over below cost timber sales is based, in large part, upon criticisms that the Forest Service is losing money on the timber sale program. It should be noted that the laws and regulations governing the management of the national forests do not, nor ever have, required the Forest Service to manage the national forests for monetary profit. In fact, the multiple-use mandate seems to reject a profit criterion, favoring instead management which recognizes the importance of non-market resource outputs.

My purpose is not to review the propriety of multiple use -- that is not the question before this Subcommittee today. Rather, I want to demonstrate that this mandate is not without costs. Conforming to the law increases the Forest Service's management costs, and often precludes the agency from implementing management strategies which could be financially more profitable.

III. EFFECTS ON FOREST SERVICE COSTS

In order to conform to its multiple use mandate, the Forest Service undertakes many additional activities which a private forest land owner with simpler financial objectives might easily avoid. The process of selling federal timber begins with identitying those stands that require a silviculture treatment (e.g., removal of mature or decaying timber, high-risk for mortality, thinning for growth increase). Once the stand of timber to be harvested has been identified, the Forest Service must provide for or enhance other multiple use values. Scenic values must be preserved, resulting in portions of the stand not being harvested, or in expensive logging systems being required to mitigate the impact on scenic values.

Wildlife values must be enchanced, therefore the wildlife biologist will require high value trees left standing to become homes for woodpeckers, or substantial acreage of old growth forests be removed from the harvest to provide habitat for spotted owls. Elk and other game habitat are considered with corresponding restrictions that decrease the potential volume harvested and/or substantially increase the logging costs.

Water quality must also be preserved, therefore District hydrologists will require riparian zones to be established and inform the logging specialist to prescribe logging techniques to protect an intermittent mountain stream that may only see water six weeks out of a year. The list of people to suggest contraints to the timber sale is extensive and includes archaeologists, fire control officers, appraisers, environmental analysis writers, silviculturists, recreational specialists, and others. Each specialist usually recommends the optimum for his particular discipline and there is often little discussion about the efficiencies of the contraints being placed on the timber sales.

A description of the timber sale design process will serve to illustrate some of these issues in a more specific fashion. I do not work for the Forest Service, but I am familiar enough with its timber sale program to know that the agency's process seems far more extensive than that on private timberlands.

The Forest Service timber sale preparation process encompasses a series of activities that begin with the identification of a project area and end with the award of a timber sale contract. These activities must pass through seven critical quality control scheduling, and accomplishment reporting points, called "gates," each of which requires specific outputs prior to proceeding to the next gate.

As the sale preparation process begins, the feasibility of the sale is measured by a review of: (1) the forest land management plan; (2) aerial photos; (3) atlases; (4) watershed analyses; (5) impacts of old sales; (6) value and cost data; (7) soil and geologic data; (8) visual resource management mapping; (9) archaeological reconnaissance findings; (10) transportation analyses; (11) logging systems capabilities; (12) fuel situation; (13) inventory of timber stand data; (14) fish and wildlife surveys and inventories; (15) botanical inventories; (16) stream classification results; (17) right-of-way needs; (18) land line survey needs and property status; (19) special use permits; (20) range allotment usages; (21) recreation use patterns; (22) other resource data files; (23) other agency information; and

(24) information from the public, visitors, landowners' associations, permittees, and local governments. All of these activities are undertaken to get through the first "gate" in the sale preparation process.

The second "gate" is the sale area design process. Sale design starts with an intensive field investigation within and adjacent to the proposed project area. Detailed, site-specific information obtained by staff specialists provides the basis for interdisciplinary resource analyses necessary to develop and prepare a commercial timber sale. The process involves addressing issues and concerns pertinent to the project, and includes refinement of criteria which guide data collection, analysis, evaluation, and preparation of alternatives under the National Environmental Policy Act. After the outputs, costs, and impacts for several alternatives are evaluated, an Environmental Assessment -- a document required by NEPA -- is prepared.

Following these steps, the final sale package is prepared. This includes an appraisal for the timber sale and drafting of a timber sale contract. The timber is then offered for bid.

Obviously, this is not a simple process. It includes input from the large number of Forest Service personnel described above. These specialists are needed to meet the requirements of the Multiple Use - Sustained Yield Act and NEPA. Mr. Malburg earlier gave you a graphic, volume comparison of the paper involved in a Forest Service sale, as compared to a Michigan state sale.

One fact about the timber sale preparation process becomes important when trying to determine which timber sales do not recover sale preparation costs. That is, the process of preparing a timber sale on a national forest typically takes about 5 to 7 years. As the agency goes through the "gates" just described, it incurs costs, but does not receive income from the sale until after harvesting begins. This gap can be as long as 8 to 10 years after the process began. This makes the timber sale accounting process more difficult and is a problem that we hope the Forest Service Timber Sale Accounting System Task Force will address.

Mr. Welling will discuss Forest Service costs in more detail and will make some suggestions about how and where the Forest Service may be able to cut its operational costs, while still meeting the requirements of the multiple use mandate.

IV. EFFECTS ON TIMBER SALE DESIGN

Not only does the multiple use mandate increase the Forest Service's internal costs, but it also results in timber sales which are less profitable to both the purchaser and the government. The financial value of a timber sale is reduced as costly provisions for protecting or producing non-timber resources are incorporated in the design of the timber sale.

During testimony before this Subcommittee on February 26, 1985, the Forest Service showed in detail how multiple use management concerns were incorporated into management plans for two areas -- the Deer Peak Area on the Lolo National Forest in Montana, and the Dillion Ranger District on the White River National Forest in Colorado. The Forest Service did an impressive job of demonstrating that short term management activities must be viewed within the context of long range multiple use goals. The agency showed that concerns for non-market resources are often an important consideration in how decisions are made on the ground.

I will add to their illustration by discussing the impacts of some multiple use decisions on the value of some timber sales with which we are familiar. My discussion will be more qualitative than quantitative. Mr. Welling and Mr. Himmel will address the specific costs of some of these practices in more detail. For the record, I would be happy to provide addditional information on specific costs if you wish.

A. Harvest Unit Dispersion

Figure 1 shows the road and harvest units associated with a Forest Service timber sale. Notice that the harvest units are located some distance apart, thus requiring more road mileage than if the units were closer together. Generally, the Forest Service disperses harvest units in this fashion in order to minimize impacts on wildlife. Sometimes extra road mileage is built in order to provide recreation access as well. While the whole road can be used for subsequent timber sales, building the extra road mileage has the effect of making the cost of the timber in the first sale higher and, thus, the returns to the Treasury lower.

Notice Section 20 at the top of Figure 1. This is a prime example of why this sale and many others are below cost. Two miles of road are required to log the scattered units containing only three million board feet (3MMBF) of timber. The cost allowance for the two miles of construction amounts to $120,000. The road thereby reduces the appraisal value of the 3MMBF by $40 per thousand board feet (MBF). If the potential yield of the entire 15MMBF accessible through the new road system had been harvested, or even used to calculate the unit value, the appraised cost of the road construction would have been reduced from $40/MBF to $8/MBF. In any event, it must be noted that, with the road in place, the remaining 12 MMBF of timber will quite clearly not be below cost.

B. Road Standards

In all cases, the area to be harvested must be accessed by a road. The multiple use mandate requires that the road be available for use by recreationists, hunters, campers, and other forest users. In this context, the Forest Service often provides an elaborately designed, high standard, visually pleasing road. A road to access the timber and provide for land management functions would cost industry $10,000-30,000 per mile in our operating area. The same road in the same location built to Forest Service standards could cost upwards of $80,000 per mile.

This is the case because: (1) visual constraints require construction slash to be piled and burned, rather than placed on the side of the road; (2) excavated material must be hauled great distances rather than placed with a dozer; and (3) surfacing consists of fine-graded crushed rock rather than the industry standard of pit-run material. One can quickly realize that this high-standard, expensive road system not only reduces the value of the timber, but also requires substantial administrative overhead expense. It takes a large staff to: (1) write road specifications and contract language; (2) survey and design road locations; (3) estimate costs; and (4) inspect for construction compliance.

In fairness to the Forest Service, and as result of budgetary reductions, some National Forests within Region 6 have drastically reduced the construction standards with a corresponding reduction in road construction costs. There remains, however, considerable room for improvement concerning reduction of road standards within the Region. The present reductions only began in 1983-84. Thus, during the years mentioned in the studies (that Mr. Sitts discussed) involving below cost sales, the excessive standards and expensive road costs were at their maximum.

Before moving off this point, I would like to note that multiple use is practiced on industry lands, but for substantially lower costs. The 50,000 acres of our land which are managed primarily for timber production receive considerable recreational use in the form of camping, fishing, off-road vehicles, hunting and many other uses. The public does not seem to mind our minimum standard road construction. The area provides habitat for deer and elk with sizable numbers killed each year by hunters. The Audubon Society uses our land -- and our roads -- for regional birdwatching events because of the number and variety of species which inhabit the area.

C. Harvest Unit Size

Figure 1 also shows harvest units that are relatively small in size. In addition to the dispersion and the relatively small size of the units, notice the fact that many of the units call for group selection or shelterwood cuts (labeled ITM or LTM on the figure) instead of clearcuts (labeled CC). These methods were used to minimize the impacts on the visual and wildlife resources. These mitigation measures increase harvesting costs dramatically. Small units mean that harvesting equipment must be moved and set up more often than if the units are bigger. This is time consuming and expensive. While selection and shetlerwood systems may be useful in meeting some multiple use objectives, they are most certainly more expensive to operate than clearcuts.

D. Logging Systems

In many cases, a timber sale contract specifies that a cable system be used on units which could be tractor logged. While this may be desirable from a visual or wildlife standpoint, it can increase costs by as much as 50%, thus reducing the amount a purchaser can bid on the sale.

E. Slash Disposal

In some regions, the Forest Service requires the purchaser to treat or remove very small pieces of slash (residue left after the merchantable logs have been removed). In addition to meeting utilization standards, this provision is often used to mitigate the visual impact of the harvest activities. Since this increases costs, the sale again becomes less profitable.

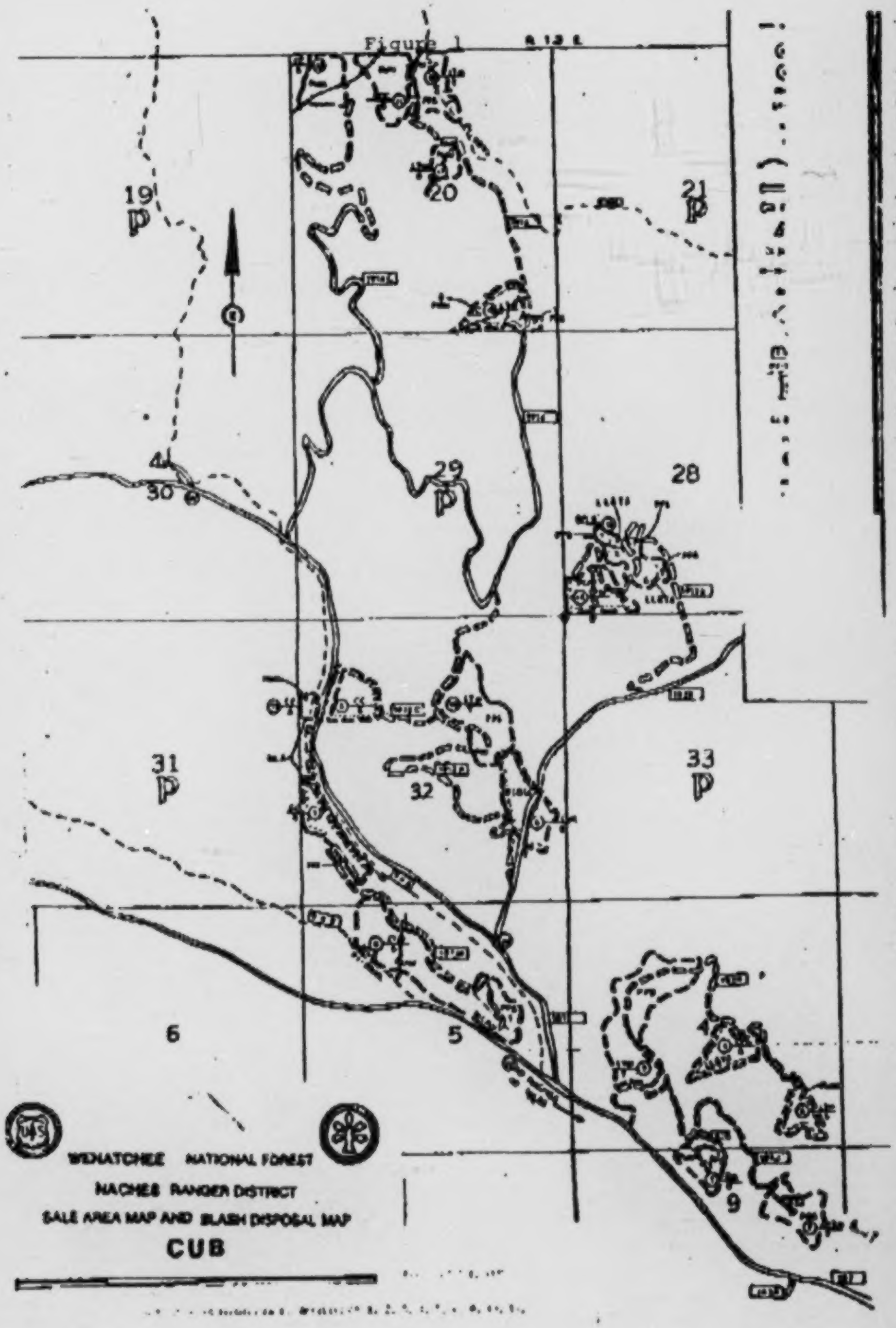
V. CONCLUSION

I am a private timberlands manager, not a multiple use expert. I am most certainly not against the multiple use management of our national forests. I trust that the Forest Service manages the timber sale program in ways that conform to its multiple use mandate. However, it is clear that the agency must consider the impacts of its management decisions on a broad array of resources. These consideration are, thus, not without cost.

Next you will hear from Pete Himmel and Mike Welling on areas that industry has identified and recommended to reduce Forest Service and purchaser costs. The industry has worked for a number of years with the agency to find ways to reduce costs and still maintain an environmentally sound timber sale program. The presentations that you are about to hear will cover only a portion of the potential opportunities that exist if the Forest Service is willing to aggressively work toward major cost reductions.

(Attachment follows:)

Figure 1


19
20
21
28
29
30
31
32
33
6
5
9
WENATCHEE NATIONAL FOREST
NACHES RANGER DISTRICT
SALE AREA MAP AND SLASH DISPOSAL MAP
CUB

STATEMENT FOR THE RECORD

OF

PETE HIMMEL

RESIDENT MANAGER

POPE & TALBOT, INC.

SPEARFISH, SOUTH DAKOTA

ON BEHALF OF

BLACK HILLS FOREST RESOURCE ASSOCIATION

BEFORE THE

SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY

COMMITTEE ON AGRICULTURE

OF THE

UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

TESTIMONY FOR THE U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
-JUNE 6, 1985-

BELOW COST TIMBER SALES

As a part of the National Forest Products Association panel before this Committee, we will not address all the questions before the panel. We will address the questions of, what is a below-cost timber sale, and how can a positive cash-flow be generated. An overview of the subject is provided in Exhibit III, the Association's White Paper on this subject.

As we understand it, below-cost timber sales are those sales which return less to the U.S. Treasury than is spent by the U.S. Forest Service in preparation and administration of timber sales. Such a definition does not account for benefits accrued to National Forests as a whole - benefits such as roads, wildlife habitat, fisheries habitat and recreational facilities.

We will use the Duling-Buckley Timber Sale to demonstrate how activities other than timber are benefited from timber sale receipts. We use this timber sale because it is a Black Hills National Forest sale and because the GAO Report on this subject used it as an example.

As the Committee is aware, the National Forest Management Act of 1976 changed the rules for the use of K-V funds. Prior to the National Forest Management Act, the Forest Service could use K-V funds only on areas cut over in timber sales and for the purposes of securing the next crop of trees. The National Forest Management Act amended the Knutson-Vandenberg Act to allow such funds to be expended on the sale area (not just the areas cut over) and to be expended for maintenance, construction and wildlife purposes as well as reforestation and improvement purposes.

The Duling-Buckley Timber Sale was sold on June 1, 1982. It was advertised for sale at $2.00 per thousand board feet and contained 9,600,000 board feet of sawtimber and 1,505 Cunits of roundwood. The total advertised value of this sale was $20,238.45, of which $14,836 was available for K-V work. The sale was sold at oral auction at which time the sawtimber was bid to $30.50 per thousand board feet, or $292,800. This brought the allowable expenditures for K-V work to $238,541. In accordance with Forest Service policy the District Ranger on March 26, 1985 submitted a revised K-V plan to expend $238,359 for various improvements on the sale area. $5,297 will go to the National Forest Fund, $238,359 will go toward K-V work, and $49,144 is available for the U.S. Treasury.

A review of the revised K-V Plan (Exhibit I) shows that at least $105,620 is to be spent on projects that are not timber related. This is money returned to the government through the sale of timber, but it will not go to the U.S. Treasury. It will remain on the Forest. We contend that this timber sale was sold above Forest Service costs of preparation and administration even though the U.S. Treasury might view it as a negative cash-flow timber sale.

We recognize that cash-flow is as important to the U.S. Government as it is to the business community. Our Association has been reviewing the cash-flow situation for the Black Hills National Forest and the industry dependent upon timber from this forest. We have found that there are areas which would decrease the cost of harvesting and thereby enhance the cash-flow to the government (we hesitate to say whether or not this cash will be returned to the Treasury). See Exhibit III.

The first item that should be considered is that of utilization requirements. Currently, the Black Hills National Forest requires the removal of sawlog segments as small as 6 inches in diameter and 8 feet long. The handling costs of this material, when compared to handling logs with a minimum of 20 board feet (logs will vary from 9 inches in diameter and 8 feet long to 6 inches in diameter and 16 feet long), would decrease purchaser costs approximately $2.75 per thousand board feet when making an appraisal. The reduced handling costs at the manufacturing plant would be reflected in the cost-collection and are estimated to be at least $4.00 per thousand board feet. This one simple change would increase the timber values for the Black Hills National Forest by $675,000 annually and would have no effect on the allowable cut nor on environmental considerations. In fact, as timber sales are currently marked, the volume removed would remain the same or increase.

Another change which would provide for a more positive cash-flow is that of changing the number of entries in the shelterwood prescriptions. Currently, the Forest is cutting on a three-stage system. This removes 1/3 of the sawtimber volume at each entry. To change to a two-stage system would remove 1/2 the sawtimber volume at each entry and would increase the volume per acre removed by 1/3. This would immediately increase the value of timber by an estimated $3.50 per thousand board feet through the appraisal system. Again, there would be no environmental damage or change in the allowable cut created.

Exotic logging systems which have been proposed for the Black Hills have resulted in the Forest Service receiving no bids for such offerings. The elimination of preparing and offering such grossly uneconomic sales would greatly reduce the Forest Service costs which must be ammortized against the volume sold. Our best estimates are a reduction in allowable cut by 2 to 3 percent but an increased sale level to the Forest of 20 to 25 percent. We feel this is significant in reducing Forest Service costs and increasing revenues. This is not to imply that the purchasers are opposed to exotic logging systems. What we are saying is, that as proposed to date no economic analysis has been made, and no consideration has been given to any modifications to silvicultural methods when using exotic logging systems. There is a potential for using cable systems, but it will require close coordination with the industry and will probably result in not attaining all of the multiple-use benefits which can be obtained in conventional logging.

Last, but not least, is Forest Service preparation and administration practices. This is the most difficult area to discuss since it amounts to many small items, pennies each but dollars in total.

Timber sale preparation has been thoroughly reviewed and found to be wanting. As might be expected, a well-prepared timber sale will provide smooth operations. Preparation includes the on-the-ground location of sale area boundaries, boundaries which are logical and workable. It includes marking timber in a consistent and easily identifiable manner and to the prescription prepared for the particular stand of timber. This has not been the case in the Black Hills and has resulted in high costs of logging and administration. Timber sale administration must be goal oriented, and it requires a good working knowledge of the expected results in a timber sale and of logging ability and limitations.

The Washington Office, U.S. Forest Service, conducted a study of the Black Hills cash-flow. We are including this study as Exhibit II and would like to comment on this study at this time. For simplicity we will follow the Black Hills Study as presented by the Forest Service.

Starting with Item II, on page 3, REASONS FOR NEGATIVE CASH FLOW.

A. Poor Markets. We agree with this in part. Poor markets will decrease cash-flow and may occasionally bring sales into a negative position. There are ways to enhance cash-flow, even in poor markets however. The subject of lumber and timber being commodities will be discussed by other speakers. High bids are determined by more factors than market prices. We have already discussed utilization standards, silvicultural practices, and exotic logging requirements.

B. Multiple-Use Benefits Have Costs But No Revenues. This we agree with but believe contract modifications can reduce cost impacts while maintaining visual benefits in the general forest area. We estimate that 2/3 of the cost of logging slash can be saved by changing contract requirements to 24 inches except near highly visible areas, such as State highways. These savings cannot be displayed in an appraisal since the costs of this work cannot be readily determined. The savings will be picked up in the cost collection or by purchaser willingness to increase bids.

C. Accounting and Budgeting Practices Cause Problems. We agree with this and other witnesses are more fully prepared to explain this subject.

D. Some Activities Increase Costs and Reduce Revenues.

1. Products Other Than Logs (P.O.L.). The material referred to here is small material with sporadic markets and subject to value only when located near operations which are equipped to handle this material. We do not agree that this material costs the $31.58 to handle as the Forest Service has stated, no do we agree that this material should be left uncut. We do believe there are options available to manage the Forest without the need to cut as much as is being cut and to reduce the handling of this material. Most of the material which is decked in the woods and returned to the Forest Service is consumed as firewood. It is our belief it would be utilized as firewood if left lying on the ground where felled. The cost of skidding and decking through contract requirements is the high cost of handling by sawtimber purchasers. The Forest could offer such

material on an optional basis and if declined by the purchaser of sawtimber, it could be made available to post and pole or firewood operators after the sawtimber is removed. The savings in cost to the purchasers would be reflected in the cost-collection analysis or through higher bid rates. P.O.L. is an important economic product to many operators in the Black Hills, and it is important that this material be made available where there is an economic demand. The cutting of this material can also serve as the most cost-efficient method of thinning certain stands of timber.

2. Silvicultural Regimes. We have already discussed the use of two-stage rather than three-stage shelterwood cutting. Another option might be to manage some stands on an unevenaged basis.

3. The Effect of Timber Sale Scheduling on Cash Flow. The Forest Service has insufficient data to make decisions in this regard. We cannot comment on this at this time. It should be apparent, however, that the industry needs an even flow of timber sales which are economic for manufacturing. Sales should be of the proper volume and term to adequately supply the dependent industry.

4. Appraisal Procedures.

a. Selling Price Index.

It is interesting to note that the Forest Service has a crystal ball as regards upswings and downturns in the market. The industry does not have such a crystal ball. A selling price index is just that, an index to measure the changing markets. The index is adjusted to local conditions to reflect local marketing experience. If it is the intention of the Forest Service to play the lumber market by withholding supplies until the price is at a level acceptable to it, there will soon be no industry in the Black Hills. If such a practice had been in place over the last five years, there would be no timber industry in the Black Hills today and hence no multiple-use management of the Forest. The purpose of appraising timber is to insure that the Forest Service receive a fair market value for its timber - the appraisal does this. In fact, the price paid for timber is subject to escalation when the market rises. The real problem in timber value is the contract requirements and timber sale administration practices which reflect high logging costs in the cost collection.

b. Appraisal System.

The Forest Service appraisal as developed for the Black Hills did not reflect the value of timber on the Black Hills. The Forest Service was unable to sell timber using the appraisal methods in place during 1983. In order to sell timber a joint Forest Service/Industry Committee was brought together to determine what problems existed in the current method and how this could be changed to reflect the market on an ongoing basis. The Committee did this, and it is working. Timber is being sold, and the appraisal reflects changes in market conditions.

c. Appraisal Costs.

Appraisals are developed to assure the seller and buyer that the commodity is properly priced under given market conditions. The cost of appraising timber is dependent upon the efficiency of the appraiser.

If the Forest Service is interested in appraising to an individual manufacturing facility, it would need to collect the costs of every plant and appraise each sale to every manufacturing plant until it found the best price for its product. This is a costly method of appraising and requires very competent appraisers.

We do not understand the logic between the cost of appraising and the value of timber. Appraising is a function of determining value, it does not set the value. The value is set in the market place and by the costs of doing business.

5. Slash Disposal/Fuel Treatment. This has been discussed previously, the answer lies in policy decisions. How much is it worth to reduce scattered slash an additional 6 inches? The Forest Service estimates that the cost of reducing slash from 24 inches to 18 inches is increased 50%. A few good snows will do the same thing at no cost, the difference is time.

6. Use of Cash-Flow Analysis in the Timber Program. This is well stated and will probably require policy changes to affect thinking by field managers. The problem goes deeper than is stated by the Forest Service. We have experienced many instances of timber sale administration which give no thought whatsoever to the cost of operations by the Forest Service or the industry and result in more dollars spent than can ever be recovered. (Exhibit IV)

E. An Alternative Approach: Custer State Park. This is an interesting approach but misses a very important aspect of the timber value in the Park. Timber sale contract terms are very different from Forest Service terms, and the timber tends to yield higher-grade lumber.

The value of timber harvest to other multiple-use benefits may not be accurate but does display other values being benefited. The cost of timber sale preparation is another important factor, the Park has discovered that generalists can do the job necessary without doing environmental damage.

III. COMPARISON OF THE FOREST PLAN WITH RECENT OPERATING EXPERIENCE

Situation

The differences in results and the Plan are not unexpected. The Forest Service views the Plan as the gospel. Hence, when market conditions change, it receives more or less revenue than planned. It becomes obvious that the crystal ball used by the Forest Service is no better than those used by industry. Inflexibility to change plans with conditions is a serious failing of the Forest Service. It no doubt has its roots in law, regulations and policy - but it is seriously hampering the ability of the Forest Service to respond to real world conditions.'

Recent Stumpage Values

Again, the Forest Service seems perplexed that the planned values were not received. This is no doubt due to the lack of economic concern by the agency and a strict adherence to the Plan, regardless of the current situation.

Recent Timber Sale Costs

This appears to be an exercise in accounting methods. It gives no clear direction to field managers as to accounting or reduction in costs.

The volume offered in 1983 which did not sell can be attributed to the appraisal method then in use. This has been corrected, and the previously unsold sales are selling.

The Effect of Changing Values and Costs

This discusses the effect of holding on to the Plan even though conditions have changed. It gives no direction to the field managers however.

Multiple-Use Benefits

Accounting for multiple-use benefits is discussed in this section. By accounting for multiple-use benefits, all sales will probably be positive. We have contended this all along; however, there is a limit to purchasers' ability to pay for multiple-use benefits which are included in contract terms.

Implications

We agree that costs are an important part of any economic analysis. It seems that the Forest Service has limited its examination to timber only. Timber is the raw material for manufacturing, and manufacturing costs are another important part of an economic analysis. The industry can be helpful to the Forest Service in defining cost implications in manufacturing. Utilization of the trees which have been cut should imply economic utilization. Trees which are forced into the sawmill and cannot be manufactured into a product that is saleable is not utilization. Those trees might be better left to grow until they can be economically utilized or if they are cut primarily to enhance the growth of the remaining trees - left where cut and allow firewood gatherers to utilize them.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Accounting makes a difference in the results of cash-flow analysis.

We will agree to this recognizing that there must be standards and limitations applied to the accounting methods.

B. That the Forest Service and purchasers can substantially reduce costs and raise revenues is completely accurate.

1. Performance of economic analysis must be done by both parties. The Forest Service does not have the expertise to determine the best utilization standards for the industry.

2. Appraising timber to purchasers of higher efficiency is a vague appraisal. What is efficiency? Efficiency in logging or logging costs, or efficiency in hauling? How much time and effort should be spent in the appraisal process? The appraisal as currently performed is understood

by both purchasers and the Forest Service. It sets a fair minimum price to be received by the Forest Service, and the price has the potential to move upward and downward with market fluctuations.

3. Increasing minimum advertised rates does not solve the problem of efficiency in government. If the market will not justify the artificial minimum rates, the sale will go unsold. This does nothing to maintain a strong and healthy dependent community, nor does it accomplish any management goals of the Forest Service.

4. Reviewing methods of determining selling values arrived at through appraisals has been done for the Black Hills. The Forest Service/Industry Committee made exhaustive studies of this, and the current appraisal is working. Let's not fix it when it is working.

5. Fuel treatment and/or visual enhancement has already been discussed. There is a cost savings available to both parties without a degradation of the environment.

6. Using the media to increase the use of slash for fuelwood in the Black Hills is probably not cost-effective. The current use of fuelwood will not decrease, because the wood is not conveniently decked along roads. When fuelwood gatherers receive their permit, the permit issuer can easily explain where the wood is located.

7. Evaluation of Standards and Guidelines is a part of the required monitoring system required in regulation.

C. Land management planning predictions should not be expected to be accurate in the short-run.

1. The monitoring process should involve the timber industry. The changing needs of industry will greatly influence the actions required by the Forest Service.

2. This is important and has been addressed in C-1.

D. To achieve cost reductions and revenue increases will require close coordination and understanding by all forest users.

1. Silvicultural opportunities have been discussed at length, and should be used.

E. Incremental decisions do not include consideration of effects on cash-flow.

1. Development of a national policy to require cash-flow analysis for all Forest Service activities should have been in place all along. If not a formal policy, it has been an informal policy in many areas.

2. Management practices favoring higher cash-flows should always receive priority. There should be no fear to change standards and guidelines when they are outdated. If Standards and Guidelines are improper for improving cash-flow, it is proper to change them.

3. We cannot argue with policies which are more cost efficient and return higher revenues.

4. A national policy directing management decisions be balanced between foregone cash and resource benefits will no doubt have to be blessed, if not directed by Congress.

5. Exceptions are a part of every rule - what is important is the rule. The Forest Service has always been able to justify exceptions.

F. Market cycles make a considerable difference in forests' cash-flow.

1. The crystal ball to determine the best market times has never worked, and the Forest Service has admitted it will not work. Even if the Forest Service could make it work, it would be impractical to put such a plan in action. To do this would require the bunching of the sales program

around a point in the market cycle. The Forest Service does not have the experienced manpower to make all of its offerings in such a short time frame, and the industry does not have the manpower to examine all the offered sales in a short time span. A balanced sales program will result in a balanced harvest program.

2. Offering an annual sales program based on timber under contract and market demand is a short-term benefit which will be lost in the long run. It will reduce the industry's ability to improve or expand plant facilities. To maintain a sales level below Forest Plan levels will lead to a continuous reduction in sales levels, until there is no sales level.

G. Present employee appraisal system does not emphasize nor reward efficiency and may in fact discourage it.

The industry has long suspected this, and it is refreshing that the agency has enough character to admit it.

1. An in-house study to analyse performance may be beneficial, but if supplemented by a Congressionally appointed committee may better serve the public interest.

V. POSSIBLE LEGISLATIVE AND POLICY CHANGES TO IMPROVE CASH-FLOW

1. This would at least give the Forest Service guidelines in its decision making.

2. This is unrealistic since it does not control costs nor is it related to market conditions.

3. This should not be limited to road design standards and sale layout. The total sale package should be evaluated to accomplish multiple-use goals based on priorities within economic limits.

4. Suitability should be based on the ability of the land to produce. This is unchangeable and can be determined for long-term planning. Economic conditions are variable and influenced by policies, not the ability of the land to produce.

5. Limiting volume under contract is false economy and does not manage land for the long-term. Limiting volume under contract will decrease the value of timber since it will reduce the purchaser's ability to maintain flexibility in the market place and purchaser's ability to obtain financing for plant improvement or expansion.

6. Fluctuations in volume of sawtimber sold on an annual basis will disrupt the dependent industry. In order to remain competitive the industry needs a stable and dependable supply of timber.

7. Manufacturing and logging costs based on the most efficient operator has already been discussed. This is counterproductive to community stability and to the development of efficiency in existing plants.

8. This would probably be folly on the part of the Forest Service. It would have no knowledge of the timing of industry needs for certain log sizes and volumes. In order to make such a plan work the Forest Service would need to contract with individual purchasers under terms that would insure the proper timing of felling and skidding operations. This would put the burden of scheduling on the Forest Service, and the delivery would have to be dependable for such an operation to work. In conclusion this does not seem to be a practical solution to achieving higher returns to the government.

9. The obvious question is, why would users of Forest Service facilities, not constructed with timber money, be allowed free use while users of timber money facilities be charged?

10. Sale layout and design, road design and other timber management work is done prior to the offering of the sale. A sale that appears to be in a positive cash-flow position at the time of preparation might well be in a negative cash-flow position at the time of offering. The purchasers of timber sales take the same risk, sales purchased at high market levels may be at a dead loss at the time of harvest. This is an inherent risk in a commodities market. An understanding of individual cost elements when preparing and administering timber sales is the important element in achieving sales above costs. It requires a cost conciousness at all times.

11. Performance reports should include management efficiency as it relates to costs of operations. What other incentives are there, besides pride in a job well done?

12. This is a viable alternative to directing cash to the Treasury. We have discussed this at length. See Exhibit I.

13. This has never been a problem to sawlog users. In fact it has been encouraged by sawlog users. We were unaware that Regional Foresters did not have such authority. We have been aware of limited markets for products other than sawlogs.

14. The timber industry would have no problem with such an accounting procedure. The problem to be solved is whether or not money received from timber and then spent on multiple-use benefits is a positive cash-flow. It is obvious that the U.S. Treasury would not receive any cash, but the U.S. Government did receive the benefit of cash.

VI. APPENDIX

We do not agree with the $31.58 per thousand board feet savings that the Forest Service has developed. We agree that there would be a savings. The actual savings can only be determined through the cost collection.

a. The reduction in harvest levels has to be based on no changes in utilization standards and no changes in silvicultural treatments. We believe that there is an opportunity to increase harvest levels and cash-flow to the Government by changes in silvicultural treatments and utilization standards.

b. As we have already stated, there is an opportunity to do some of this. The key is to know what end results are desired from the sale and the nature of the stand prior to the marking of the timber. To do this forest-wide as a standard practice defeats the accomplishment of multiple-use forestry practices.

c. Treating timber stands through thinning is an accepted practice. The trick is to accomplish the thinnings as economically as possible, and timing of thinnings is an important part of the economics.

d. This is another option which is an accepted practice.

e. Optional removal is a viable alternative in those areas where there is a market.

GENERAL COMMENTS:

All of the above options regarding P.O.L. have a proper place in management. The study presents these options as an either/or decision. The truth of the matter is that all are viable in combination, it rests upon the shoulders of the manager to decide which option will best serve the needs of a particular timber stand and which will be acceptable from the standpoint of cash-flow.

SUMMARY:

We have discussed many principles regarding the practice of forestry and the costs of forestry practices.

It may seem that we have used the Forest Service as a whipping boy in these discussions. This is not intended. The Forest Service is operated by laws, regulations and policies, and as they become more complicated it becomes more difficult for managers to know what is required. Managers then become interpreters of law and policy and quit using judgement. This seems to be where the Forest Service now finds itself. "The law does not allow that", is more commonly heard now than ever before. Timber sale administration has become punitive in nature. Any deviation from the letter of the contract becomes a contract violation. There is no thought as to what is reasonable or what was intended by the contract. The only thought becomes the words of the contract.

The subject of contract administration would require more time than is prudent for the purposes of this Committee, but the Committee should be aware of the fact that contract administration can be a costly item to purchasers and it is reflected in the cost-collection process. Exhibit IV contains two examples of punitive timber sale administration which were costly to the Government and purchaser in time and travel and returned nothing to the Government in the way of cash-flow.

We appreciate this opportunity to share our views and experience with you. We are always available to answer any questions you may have. Please feel free to call on us at any time.

Respectfully,

LLOYD E. STAHL
Executive Director
Black Hills Forest Resource Association

LES:mdc

(Attachments follow:)

EXHIBIT I

Bearlodge Ranger District
P.O. Box 680
Sundance, WY 82729

March 26, 1985

2470 Silvicultural Practices

Revised S.A.I. Plan
Duling Buckley Timber Sale

Forest Supervisor
Black Hills National Forest

Attached, for your review and approval, is a revised Sale Area Improvement Plan for the Duling Buckley Timber Sale.

Fuel information from the initial K.V. Plan was used, instead of doing a field check at the present time, to determine the amount of fuel treatment needed. The available fuel factors and moderate resource values are the main criteria for selecting a 300 BTU maximum fireline intensity limit. This limit was determined for fireline intensity within three years after timber harvest and is the maximum requirement for the sale. Any stand which exceeds this 300 BTU limit but does not have over 40 continuous acres of these type fuels will not require additional fuel treatment. Further inspections to determine accurate fuel landings will be conducted after sale is cut and before thinning contracts are sold. This will be completed before final revision of plan to determine fuel treatment required, if any.

The purpose of the revision is to up-date the inventory of improvement work needed and to collect funds commensurate with the bid premium in the Duling Buckley contract.

James T. Farver
JAMES T. FARVER
District Ranger

AHarmsen/ft

Duling Buckley KV Plan Narrative
* Revision

Item#

1) Precommercial Thin
Will consist of thinning stands 9B & 5 (48 acres). These are small pockets which will generate a heavy fuel loading, but these are small and not continuous. Fuel treatment not needed.

2) Treat Noxious Weeds
Will consist of treating 45 acres annually for 5 years (thistle) on skid trails, landings, temporary roads, etc.

3) Precommercial Thin
Will consist of portions or all of stands 10, 11, 12a & 12b (244 total acres). There are small pockets which will generate a heavy fuel loading, but these are small and not continuous. Fuel treatment not needed.

4) Precommercial Thin
Will consist of portions or all of stands 2b, 9a, 15, 13a, 13b, 16, 12c & 22 (335 total acres). There are small pockets which will generate a heavy fuel loading, but these are small and not continuous. Fuel treatment not needed.

5) Precommercial Thin
Will consist of thinning portions or all of stands 3, 14 & 23 (116 total acres). There are small pockets which will generate a heavy fuel loading, but these are small and not continuous. Fuel treatment not needed.

6) Precommercial Thin
Will consist of thinning stands 8 & 2a (128 total acres). There are small pockets which will generate a heavy fuel loading, but these are small and not continuous. Fuel treatment not needed.

7) TSI and Regeneration Survey (3rd & 5th year)
Post regeneration surveys and Stage II data suggest that regeneration in this area occurs in a timely manner. On-site inspections also indicate this; thus, it has been determined that 3rd & 5th year regeneration and TSI surveys can be adequately completed by doing a low reliability (walk through) survey.

8) Aspen Regeneration
For stimulation of browse species in site 24 (5)* compartment 019401. This stand is scheduled for cutting under the District Aspen Management Plan.

9) Pipe Out Kunath Spring (gravity flow)
Will consist of .55 mile pipeline at 1.25/ft, stockwater tank installed, and 2 days of administration.

10) Artificial Watershed & Storage Tank
See attached K.V. Map. (SW SW1/4 Sec 20) Will consist of a 10,000 gallon stock tank with float valve.

11) Range Improvement (Construct 1 1/4 mile pasture division fence)
This fence will follow section lines between sections 19 and 20 and between sections 29 and 30. Cost includes 2 days administration. See attached K.V. Map.

12) Range Improvement (Construct 3.4 miles pasture division fence)
This fence will be located in sections 25, 26, 30 & 36. Cost includes 5 days administration. See attached K.V. Map.

13) Artificial Watershed & Storage Tank
Same specs as item (10). See attached K.V. Map (SE SW 1/4 Sec 19).

14) Meadow Maintenance
This will consist of removal of all pine invaders on 30 acres of draw bottoms and stringer meadows within the Duling Buckley Timber Sale.

15) Road Closure Gates
Will consist of installing 12 gates within the Duling Buckley Timber Sale to control use of the area so that the integrity of the area is retained. Actual gate locations will be determined when on-the-ground inspections are complete and reveal where areas can be effectively closed.

16) Artificial Watershed & Storage Tank
Same specs as item (10). See attached K.V. Map (NW SW 1/4 Sec 36).

(*The actual stand number in the RIS system is stand 5)

REVISED PLAN

SDA – FOREST SERVICE

SALE AREA IMPROVEMENT AND K–V COLLECTION PLAN
(Reference FSM 2477)

(1) FOREST Black Hills	(2) DISTRICT OR UNIT Bearlodge	(3) SALE NAME Duling-Buckley	(4) CONTRACT DATE 9-22-82
(5) COMPARTMENTS 019401 Upper Red Cnyn 19100 Renolds 19300 Blk Buttes 019500 Buckley Cnyn A & 7C Mgt Areas	(6) TYPE OF PLAN ☐ Original ☒ Revision	(7) PURCHASER Neiman Sawmill,Inc	(8) CONTRACT NUMBER 000120

Treatment (By Priority) (9)	Function Number (10)	Units of Work (11)	Cost Per Unit (12)	Total Sale Area Improvement Needs No. of Units (13a)	Total Sale Area Improvement Needs Cost (13b)	K–V Financed No. of Units (14a)	K–V Financed Cost (14b)
tand 9 b & 5 recommercial Thin	034	acres	144	48	6912	48	6912
reat Noxious Weeds	055	acres	191	45	42975	45	42975
tands 10,11,12a & 12b recommercial Thin	034	acres	144	244	35136	244	35136
tands 2b,9a,15,13a,13b,16 recommercial Thin 12c,22	034	acres	144	335	48240	335	48240
tand 3,14,23 recommercial Thin	034	acres	144	116	16704	116	16704
tand 8 recommercial Thin	034	acres	144	128	18432	128	18432
SI & Regeneration Walk- hrough Surveys 3rd&5th Yr	033 034	acres	4	700	2800	700	2800
spen Regen - Stand 24	081	acres	107	25	2675	25	2675
W SE¼ Sec 24 ipe out Kunath Spring	053	each	4730	1	4730	1	4730
W SW¼ Sec 20 Artificial atershed & Storage Tank	053	each	10000	1	10000	1	10000
ange Improvement	053	mile	3000	1	3950	1	3950
Range Improvement	053	mile	3000	1	10700	1	10700
E SW¼ Sec 19 Artificial atershed & Storage Tank	053	each	10000	1	10000	1	10000
eadow Maintenance	052	acres	33	30	990	30	990
Road Closure Gates (14ft)	130	each	800	12	9600	12	9600
NW SW¼ Sec 36 Artificial Watershed & Storage Tank	053	each	10000	1	10000	1	10000
(15) TOTAL AMOUNT NEEDED AND K–V TO BE COLLECTED →					238,359		238,359
(16) STUMPAGE AVAILABLE FOR K–V FINANCING →							238,541.81

(17) REMARKS

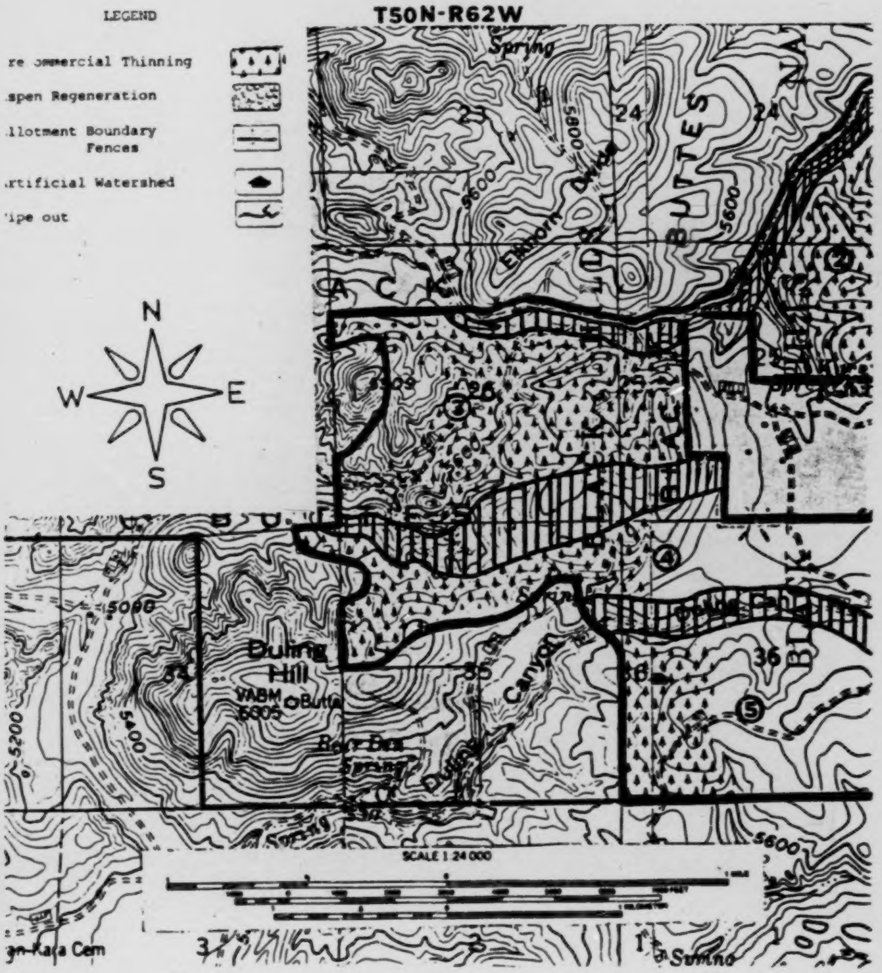
44% overhead is included in costs per unit
288,541.81 available for K.V. Financing
less 50,000 Purchaser Credit=$238,541.81

Maximum K.V. to be Collected from
Automated Timber Sales Accounting
System January 1985=$288,541.81

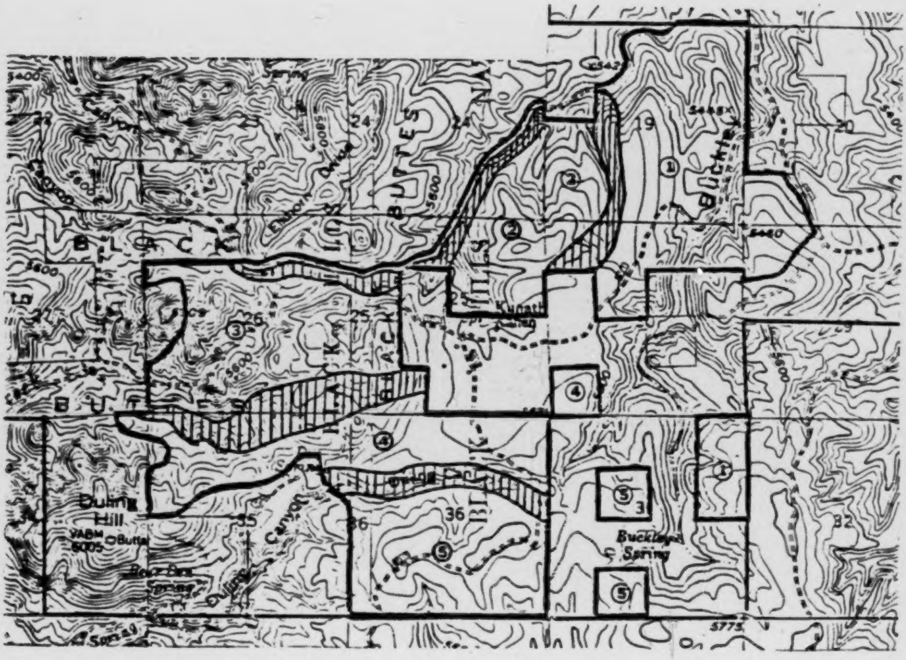
(18) PREPARED BY (Signature) David R. Glen	TITLE Forester	DATE 3-25-~~84~~ 85
(19) RECOMMENDED BY (Signature) Signed on original by	TITLE [illegible]	DATE
(20) APPROVED BY (Signature)	TITLE	DATE

Previous edition is obsolete (OVER) FS-2400-50

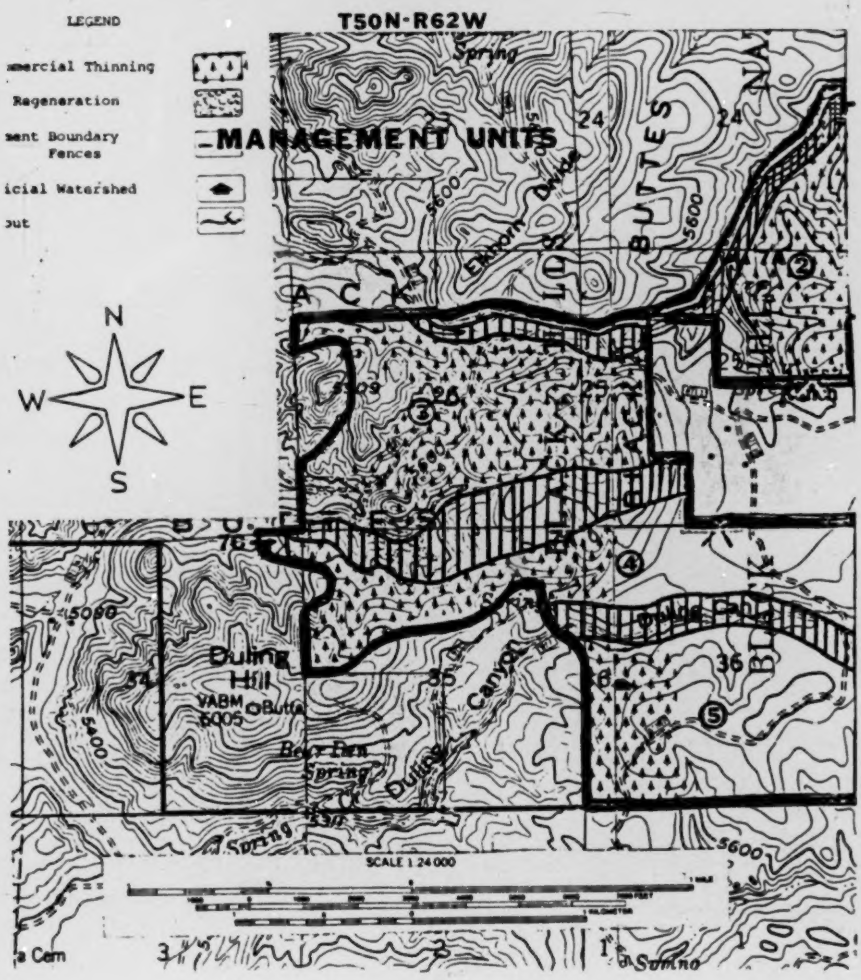
DULING-BUCKLEY KV-PLAN
p.1


LEGEND
re ommercial Thinning
spen Regeneration
llotment Boundary Fences
rtificial Watershed
ipe out
N
W
E
S
T50N-R62W
Spring
23
24
24
5600
5800
Elkhorn
Divide
BUTTES
5600
ACK
26
3
4
5
5000
5200
5400
Duling Hill
VABM 6005
Butte
34
35
36
Canyon
Duling
Spring
Sumno
SCALE 1:24 000
3
2
1
5600
Kara Cem

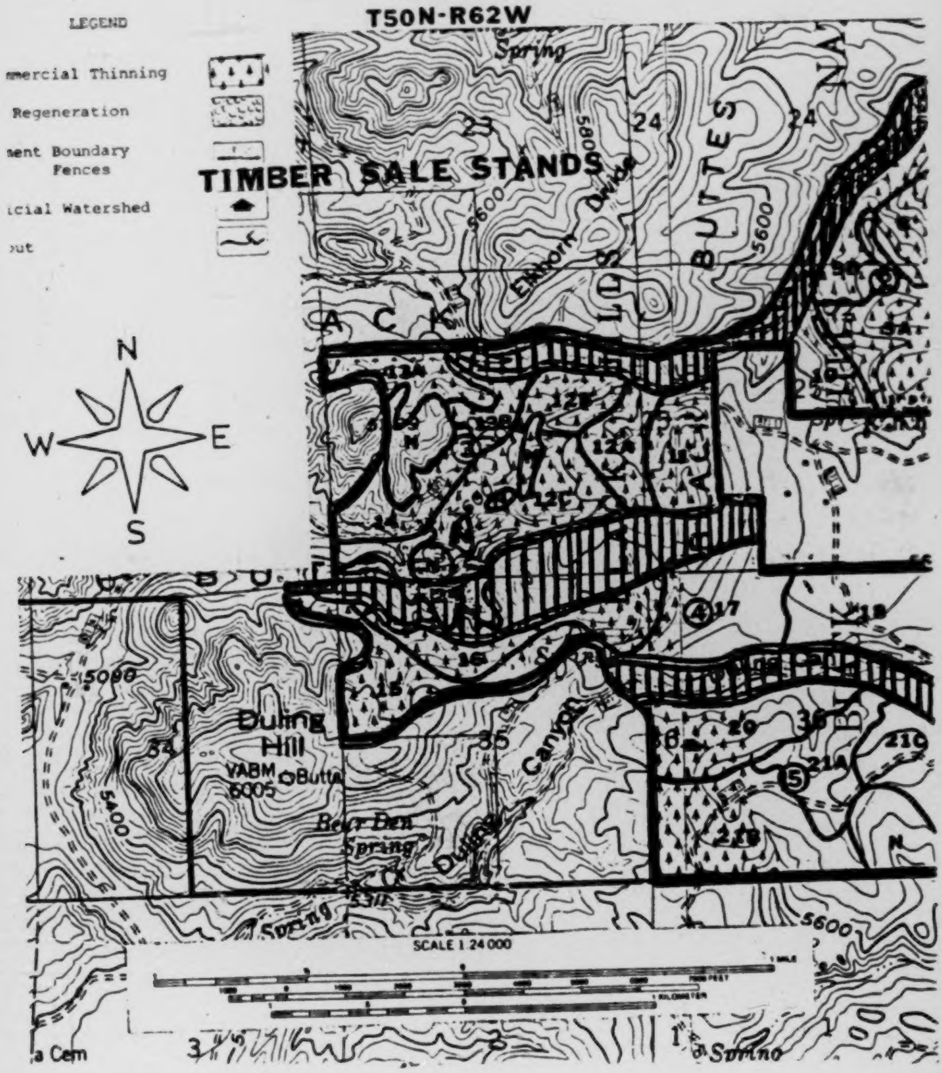
DULING-BUCKLEY SALE MAP


BLACK
BUTTES
BLACK BUTTES
Duling Hill
Duling Canyon
Buckley
Buckley Spring
Kunath
19
20
24
25
26
27
31
32
35
36
①
②
③
④
⑤
5775

DULING-BUCKLEY KV-PLAN
p.1


LEGEND
mercial Thinning
Regeneration
ment Boundary
Fences
icial Watershed
out
T50N-R62W
MANAGEMENT UNITS
N
W
E
S
Spring
24
BUTTES
5600
Elkhorn Divide
②
③
26
25
④
76
5000
Duling Hill
VABM
6005
Butte
34
35
36
Duling Canyon
Bear Den
Spring
Duling Cr
⑤
Spring
5600
SCALE 1:24 000
a Cem
3
2
1
Sumno

DULING-BUCKLEY KV-PLAN
p.1


LEGEND
mercial Thinning
Regeneration
ment Boundary Fences
icial Watershed
out
T50N-R62W
TIMBER SALE STANDS
N
W
E
S
Spring
23
24
BUTTES
Elkhorn Divide
5600
5000
5400
34
35
Duling Hill
YABM 6005
Butte
Bear Den Spring
Canyon
15
16
17
18
20
21C
21A
SCALE 1:24 000
a Cem
Spring

ORIGINAL PLAN

USDA – FOREST SERVICE

SALE AREA IMPROVEMENT AND K–V COLLECTION PLAN

(Reference FSM 2477)

(1) FOREST Black Hills	(2) DISTRICT OR UNIT Bearlodge
(3) SALE NAME Duling Buckley	(4) CONTRACT DATE
(7) PURCHASER	(8) CONTRACT NUMBER

(5) COMPARTMENTS: 2210 acres
0191 Renolds 0194Upper Red Canyon
0193 Black Buttes 0195Buckley Canyon

(6) TYPE OF PLAN
☒ Original
☐ Revision

Treatment (By Priority) (9)	Function Number (10)	Units of Work (11)	Cost Per Unit (12)	Total Sale Area Improvement Needs: No. of Units (13a)	Total Sale Area Improvement Needs: Cost (13b)	K–V Financed: No. of Units (14a)	K–V Financed: Cost (14b)
Stand 9b Precommercial Thin and	034	acre	90	48	4320	48	4320
Jackpot Burn	080	acre	37.33	9	336	9	336
Treat Noxious Weeds	058 ~~080~~	acre	83	10	830	10	830
Stands 6, 10, 11 Precommercial Thin	034	acre	85	244	20740	110	9350
Stands 2b, 9a, 15, 22 ~~Precommercial Thin~~	034	acre	80	335	26800		
Stand 4 Precommercial Thin and	034	acre	80	116	9280		
Jackpot Burn	080	acre	36.91	11	406		
Stand 8 Precommercial Thin	034	acre	80	128	10240		
[redacted]	080	chain	12.71	14	178		
[redacted]	080	acre	147.00	5	735		
[redacted]	091	acre	308	3	924		
[redacted]	033 034	acre	7	700	4900 8%		0%

(15) TOTAL AMOUNT NEEDED AND K–V TO BE COLLECTED → 79,689 — 14,836

(16) STUMPAGE AVAILABLE FOR K–V FINANCING → 14,859

(17) REMARKS: 40% Overhead is included in costs per unit

9560 MBF x $1.50/MBF = 14340
2077 cords x $0.25/cord = 519
14859

Acreages of slash treatment shown reflects KV's share of the treatment. Remaining acreages are covered by other functions

(18) PREPARED BY (Signature)	TITLE Forester	DATE 3/12/82
(19) RECOMMENDED BY (Signature)	TITLE FOREST SILVICULTURIST	DATE 3/23/82
(20) APPROVED BY (Signature)	TITLE For JAMES R. MATHERS, Forest Supervisor (Contracting Officer)	DATE 3/23/82

Previous edition is obsolete

FS-2400-50 (3/73)

The following conditions apply to the indicated portions of Division B—Standard Provisions issued 8/73.

A1 [redacted]

This Sale Area of 3,[illegible] acres more or less is located in: Sections 19, 20, [illegible], 30, 31, T.50N., R.61W., Sections 24, 25, 26, 34, 36, T.50N., R.62W., 6th P.M., Crook County, Wyoming, Reynolds (#191), Black Buttes (#193), Upper Red Canyon (#194); and Beckley (#195) Compartments.

A2 – Volume Estimate and Utilization Standards, applicable to B2.1, B2.2, B2.4 and B6.4

SPECIES AND PRODUCT	ESTIMATED QUANTITY AND UNIT OF MEASURE	MINIMUM TREE SPECIFICATIONS INCLUDE ONE MINIMUM PIECE	MINIMUM PIECE SPECIFICATIONS		
		DIAMETER BREAST HIGH (d.b.h.) *Inches*	LENGTH *Feet*	DIAMETER INSIDE BARK AT SMALL END *Inches*	NET SCALE IN % OF GROSS SCALE
Ponderosa Pine Logs	9,490 MBF	8.0	8	6.0	33 1/3
Ponderosa Pine Products Other Than Logs 1/	1,505 Cunits	5.0	8 1/3	4.0	None
Ponderosa Pine Bug Timber Removed Separately from Green Timber	360 MBF	8.0	8	6.0	33 1/3
TIMBER SUBJECT TO AGREEMENT UNDER C2.118					
Ponderosa Pine Products Other Than Logs (Topwood)	Unestimated	---	8 1/3	4.0	None
TOTAL	10,828 MBF				

A3 – Timber Designations, applicable to B2.3; acres are approximate:

1/ Minimum tree specifications include two minimum pieces

	Number	Acres	
Clearcutting Units (B2.31)	XX	XX	
Specified Road Clearing (B2.32)	[redacted]	2.19	(11 MBF)
Overstory-Removal Units (B2.33)	XX	XX	
Understory-Removal Units (B2.34)	XX	XX	
Individual Trees (B2.35)	[redacted]	2310	
Incompletely-Marked Timber (B2.36)	[redacted]	XX	

A4 – Dead Trees Required to be Felled, applicable to B2.12, B2.3 and B6.4

Size Requirements: 16 feet high and 8 inches d.b.h.

Number Limitations: Applicable only if Sale Area Map indicates there are subdivisions where timber is to be designated after date of sale advertisement. In addition to dead trees felled within Clearcutting Units, construction clearings and other authorized development clearings, no more than N/A dead trees must be felled within subdivisions, or those portions thereof, where timber is designated after date of sale advertisement. Number limitation does not apply to subdivisions, or portions thereof, designated at time of sale advertisement. Dead trees to be cut as part of road construction is described in Section 201 - Clearing and Grubbing of the Forest Service Standard Specifications for Construction of Roads and Bridges.

[illegible] DATED 12/11/84.

CONTRACT [illegible] DATED 12/11/84

DULING-BUCKLEY TIMBER SALE

A5a – For Species and Products to be Paid for at Rates Escalated under B3.2

SPECIES AND PRODUCT	UNIT OF MEASURE	RATES PER UNIT OF MEASURE					BASE INDEX
		BASE $	ADVERTISED $	BID PREMIUM $	BID (Tentative) $	REQUIRED DEPOSITS SLASH DISPOSAL $	
			N/A				

A5b – For Species and Products to be Paid for at Flat Rates

SPECIES AND PRODUCT	UNIT OF MEASURE	RATES PER UNIT OF MEASURE				
		BASE $	ADVERTISED $	BID PREMIUM $	BID (Flat) $	REQUIRED DEPOSITS SLASH DISPOSAL $
Ponderosa Pine Logs	MBF	2.00	2.00	28.50	30.50	2.31
FIXED RATE NOT SUBJECT TO BIDDING						
Ponderosa Pine Bug Timber	MBF	2.00	----	----	2.00	None
Ponderosa Pine Products Other Than Logs	Cunits	0.69	0.69	----	0.69	None
TIMBER SUBJECT TO AGREEMENT UNDER C2.11						
Ponderosa Pine Products Other Than Logs (Topwood)	Cunits	0.69	0.69	----	0.69	None

* For purposes of convenience in collection and bookkeeping, Bid Rates stated in A5 include payment of deposits for sale area betterment required pursuant to 16 U.S.C. 576b. Such deposits are not included as Required Deposits defined hereunder.

CONTRACT MODIFICATION DATED 12/11/84

CONTRACT MODIFICATION DATED 12/11/84

[redacted]

National Forest Black Hills
Sale Name Duling-Buckley

A22 – Inapplicable Standard Provisions

The following listed Sections, Subsections or Items of Division B - Standard Provisions - are hereby made inapplicable. (Instructions: List by reference number and title.)

B2.32	Construction Clearing
B4.4	Payments Not Received
B5.211	Priority of Drawings
B5.251	Difference in Rock Cost
B5.252	Difference in Culvert Installation
B5.253	Cost Adjustment for Physical Change
B5.254	Design Change
B6.24	Protection of Historical Sites
B6.85	Scaling Lost Products
B9.2	Disputes

A23 - List of Special Provisions

The following listed special provisions are attached to and made a part of this contract as Division C. Unless listed herein or added by modification pursuant to B8.23, B8.3 or B8.31 no provision of Division C shall have force or effect. Provisions with reference numbers followed by # contain blanks into which data have been entered for this sale. (Instructions: List by reference number, title and date.)

The applicable provisions are listed on attached 2400-6, Page 109 (9/73) continued, which is attached hereto and made a part hereof.

EXHIBIT II

United States
Department of
Agriculture

Forest
Service

WO

Reply to 2400 Timber Management

Date [illegible]

Subject Timber Program Economic Analysis - Black Hills National Forest

To Regional Forester, R-2

Here is the report of the task force that evaluated the reasons for negative cash flow in the timber program on the Black Hills National Forest. It is cleared for public distribution and should be made available to those who are interested. Those who receive a copy should be reminded that:

--The report is a candid assessment of the timber sale program of the Black Hills National Forest, based on a brief review by a task force of specialists. The report does not attempt to describe the many positive aspects of current management of the Forest. It is important to keep in mind the task force's view that the Forest is well managed and has a balanced multiple-use program.

--The report is written for managers in the Forest Service and contains some terminology that may not be understood by the public.

--The purpose of sharing the report with the public now is that there is a great deal of interest in the economics of timber sales. It is desirable to have the widest possible discussion of the policy questions implicit in the below cost sale issue.

--Many of the report's recommendations call for further study of particular topics and completion of these studies will take more time and indepth analysis than was involved here.

--The recommendations in the report are recommendations of an ad hoc task force and do not represent changes in Forest Service policy.

--In order to verify whether or not the report's findings have general applicability or are only specific to the Black Hills National Forest, we have selected two more Forests with negative cash flows to be studied in the same way. Region 6 has also agreed to study a Forest with positive cash flows. The results of these studies will be available within the next year.

--The report is one of a number of initiatives the Forest Service has recently taken to improve economic efficiency of management within the general framework of the National Forest Management Act and the Multiple Use-Sustained Yield Act. Some of these initiatives are: Productivity Improvement Teams, the National Administrative Review Team, and the development of a new timber sale policy.

Most of the recommendations are within your current authority to implement. You are encouraged to implement those you feel are applicable and would benefit the situation on the Black Hills or other Forests in the Region.

The review team is highly complimentary of the support given by the personnel of the Black Hills National Forest in conducting this analysis. Please give them my thanks for their effort and cooperation

F. Dale Robertson

For: R. MAX PETERSON
Chief

ANALYSIS OF CASH FLOW IN THE TIMBER SALE PROGRAM ON THE BLACK HILLS NATIONAL FOREST

Page

I. INTRODUCTION

A. Background 2
B. Objective. 2
C. Purpose of Report. 2
D. Assumptions. 3

II. REASONS FOR NEGATIVE CASH FLOW

A. Poor Markets 3
B. Multiple Use Benefits Have Costs But No Revenues 3
C. Accounting and Budgeting Practices Cause Problems. 5
  1. Support Cost to TM
  2. TM Support to Other Resource Programs
  3. Other TM Costs Not Related to Timber Sales
  4. KV and SSF Costs
D. Some Activities Increase Costs and Reduce Revenues 9
  1. Products Other Than Logs (POL)
  2. Silvicultural Regimes
  3. Timber Sale Scheduling
  4. Appraisal Procedures
  5. Slash Disposal
  6. Use of Cash Flow Analysis in the Timber Program
E. An Alternative Approach: Custer State Park. 17

III. COMPARISON OF THE FOREST PLAN WITH RECENT OPERATING EXPERIENCE 18

IV. CONCLUSIONS AND RECOMMENDATIONS. 23

A. Cost Accounting Processes and Definitions
B. Opportunities for Forest Service and Timber Purchaser's to Reduce Costs and Increase Revenues
C. LMP Monitoring
D. Long-Range Cost Reduction and Revenue Increases
E. Cash Flow Policy
F. Market Cycles and Volume Under Contract
G. Employee Incentives

V. POSSIBLE LEGISLATIVE AND POLICY CHANGES TO IMPROVE CASH FLOW . 25

VI. APPENDIX 27

A. Alternative Methods of Managing Products Other Than Logs (POL)

ANALYSIS OF CASH FLOW IN THE TIMBER SALE PROGRAM ON THE BLACK HILLS NATIONAL FOREST

I. INTRODUCTION

A. Background

There have been five recent studies focused on the revenues and costs of selling timber from the National Forests. They were conducted by: the Natural Resource Defense Council, 1981; the Survey and Investigation Staff of the House Committee on Appropriations, February 1984; the Congressional Research Service, March 1984; the General Accounting Office, June 1984; and the Wilderness Society, July 1984. All employed a short term, simple approach to analyze an extremely complex issue, and all were critical of sales that yielded less revenue than their costs.

Subsequent to these reports the Subcommittee on Interior and Related Agencies of the House Appropriations Committee drafted a bill that would use cash flow as a test of the timber sale program. To evaluate its impact, the Forest Service prepared a Cash Flow Analysis of National Forest Timber Sales in response to H.R. 5973 and associated report language. A team was then assigned the task of evaluating the reasons for "negative cash flow" on the Black Hills National Forest with the objective of developing recommendations on how cash flow might be improved. The Black Hills National Forest was chosen because the Forest is considered to be well managed, has a balanced program and a completed Forest Plan, and had the greatest total negative cash flow in the Forest Service analysis.

Cash flow refers to the flow of cash through an enterprise or a program and the residual of cash received minus cash disbursed. Cash flow for timber sales has been determined by subtracting those cash outlays incurred preparing, selling, administering, regenerating, and improving timber stands for sale from the cash revenue from the sale of the timber stands. It is important to point out that using only cash flows to evaluate the sale of timber has definite limitations and can portray a false image. Nevertheless, the occurrence of negative cash flows should be investigated to determine whether they can be improved while maintaining the noncash benefits associated with timber production.

B. Objectives

1. Evaluate the timber sale program on the Black Hills NF to determine the reasons that the cash flow is so negative and recommend ways to improve it.

2. Evaluate the analysis used in the Forest Plan to determine why it projects a positive cash flow when recent experience is the opposite.

C. Purpose of Report

The report will set forth findings of the analysis done on the Black Hills NF to enable managers to see what is causing the negative cash flow. The recomendations will concentrate on those actions that appear to offer significant opportunities to improve cash flow on the Black Hills National Forest and also may have application to other National Forests in the system.

D. Assumptions

1. The analysis and recommendations are made in the context of adherence to current laws and regulations.

2. The effort is to explain the causes or reasons for negative cash flow.

3. The objective is to improve cash flow, even if the improvements are not enough to make cash flow positive.

4. The results should apply to those Forests with positive cash flows, as well as those with negative.

5. The report is not aimed at defining a new timber sale cost accounting system.

6. A negative cash flow is not necessarily an indication of problems, nor is a positive cash flow a guarantee of efficiency.

II. REASONS FOR NEGATIVE CASH FLOW

A. Poor Markets

During the period covered by the Cash Flow Analysis, conditions in the timber market were generally poor. From 1978 to 1982, the White Wood price index and the Rocky Mountain Ponderosa Pine price index, which measure the price of wood products, dropped by about 30 percent (see Figure 1). The market improved in 1983, but failed to regain previous highs.

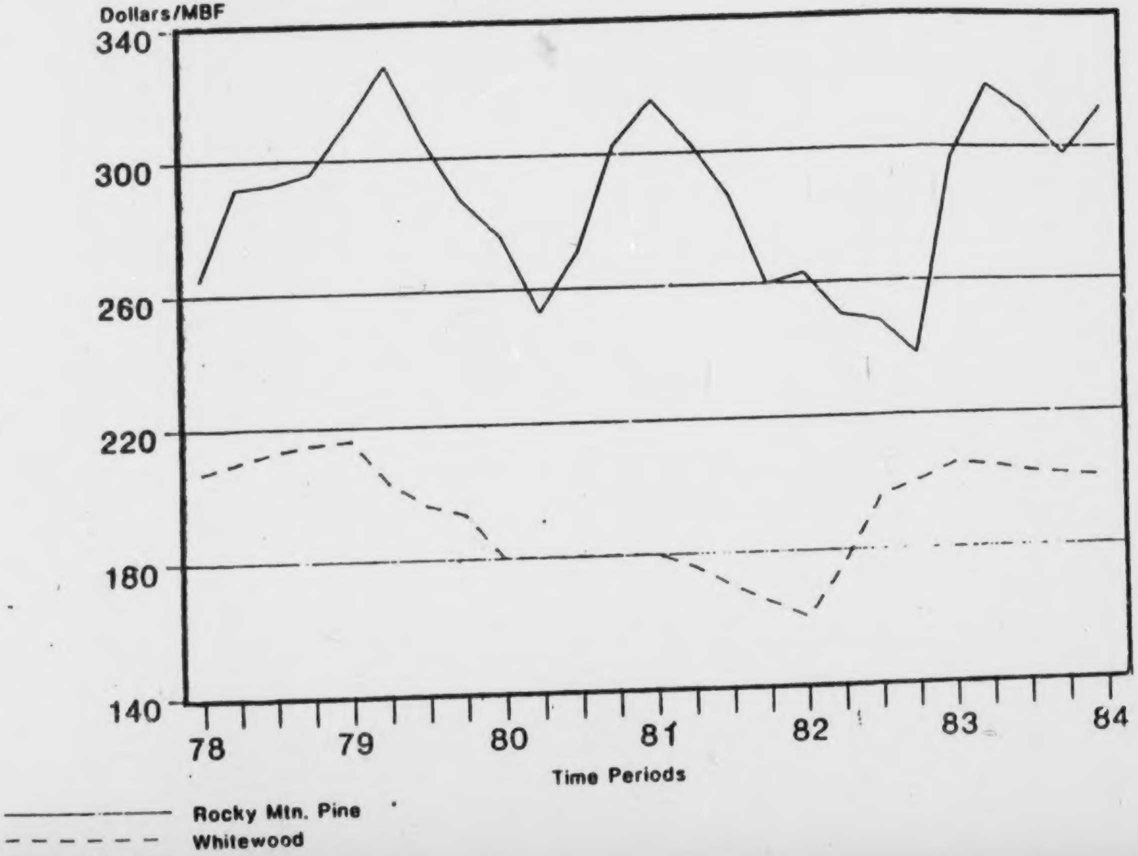
These changes in product prices can be expected to affect the prices paid for timber from the Forest. And, in fact, the average statistical high bid for timber declined from $66.63 in FY '78 to $6.95 in FY '82. There was a similar but more erratic decline in the amount bid over the minimum acceptable price, which decreased from $15.18 to $4.67 in the same period.

B. Multiple Use Benefits Have Costs But No Revenues

Management of the Black Hills National Forest places a heavy emphasis on multiple use management. The multiple use requirements often make timber management more expensive to carry out without producing any additional revenues for the government. The result is that multiple use management, while benefiting other uses, can have an adverse effect on the cash flow of the timber sale program.

Although it is difficult to quantify this effect with any precision, there is information in the Black Hills Forest Plan that can offer some insight. The

WWPA Indices - Black Hills



Forest has 1,034,000 acres of suitable timber land. About 280,000 of these acres are forested lands that are managed for big-game winter range. Another 30,000 acres are managed with an emphasis on other species of wildlife. Timber production may occur in these areas, but only under conditions that preserve or enhance the quality of wildlife habitat. This imposes restrictions on the timber sale program that often have the effect of increasing costs or decreasing purchasers' willingness to pay for timber.

About 710,000 acres of the suitable land is managed with an emphasis on wood fiber production. Even within this area, timber management practices emphasize multiple uses. For example, in this area the plan requires that management emphasize visually appealing landscapes, which result in a visual quality objective of partial retention within the foreground of arterial and collector roads and primary trails. The relatively large amount of private land within the Forest boundary and the heavy recreational use make visual quality objectives particularly important. The partial retention objective affects residual growing stock levels, volume removed per entry, timing of entries, logging methods, and slash disposal costs. These factors can have an adverse effect on the cost of presale, administration, and postsale work, and can also affect the costs incurred by timber purchasers.

C. Accounting and Budgeting Practices Cause Problems

The Black Hills National Forest is representative of other National Forests in the way it plans, allocates, and executes its programs. The Forest accounts for costs in ways that may make the cash flow picture in the timber sale program seem worse than it really is. For a number of historical and practical reasons, the timber management budget has carried the costs of activities that are not directly related to timber production alone, but support the achievement of various non-timber multiple-use objectives.

This is an accounting problem rather than a management problem. The non-timber objectives that are supported in part by timber management funds are part of the multiple-use mandate of the Forest Service established by law and contribute a large part of the public benefits provided by forest management.

1. Support Costs to Timber

The Black Hills National Forest timber sale expenditures include significant amounts of support dollars from other program components. For the 4-year period of FY 1980 through FY 1983, these support costs amounted to 30 percent of total sale preparation, administration costs, and support costs (excluding costs of all roads and KV). These figures are displayed in Table 1.

FY 1983 was the first year that support cost to timber sales was planned and executed as a separate budget item. In that year, the Forest included 100 percent ($534,000) of their land line location funding in the timber sale program component. This represented 62 percent of support cost to timber sales. The second biggest support cost to timber was road maintenance with 43 percent ($163,000) of the Forest funding in the timber sale program component.

Table 1
Support Costs

	FY 1980-83 Average			
	Volume Offered MMBF	% Support to Total[1]	Support $/MBF[2]	Support $/Acre[3]
All Forests	11,863	26%	$4.24	$45
R-2 Forests	394	24	5.29	28
Black Hills NF	131	29	4.76	22
R-3 Forests	447	14	2.16	6
A-S NF	103	10	1.45	4
Coconino NF	98	14	1.56	5
R-4 Forests	448	25	5.21	42
Boise NF	102	22	3.70	23

	FY 1983			
	Volume Offered MMBF	% Support to Total[1]	Support $/MBF[2]	Support $/Acre[3]
All Forests	11,419	28%	$4.85	$52
R-2 Forests	396	24	5.15	30
Black Hills NF	111	34	6.87	23
R-3 Forests	464	15	2.45	7
A-S NF	107	11	1.64	5
Coconino NF	104	16	1.78	6
R-4 Forests	448	25	5.50	43
Boise NF	103	22	3.96	20

1/ Support cost as a percent of timber preparation, administration, and support. Based on FY 1980-83 data from the 5-year cost revenue analysis by Forest.

2/ Based on volume offered FY 1980-83.

3/ Based on acres of timber sales sold (without salvage sales) FY 1980-83.

Support Cost To Timber
Fiscal Year 1983

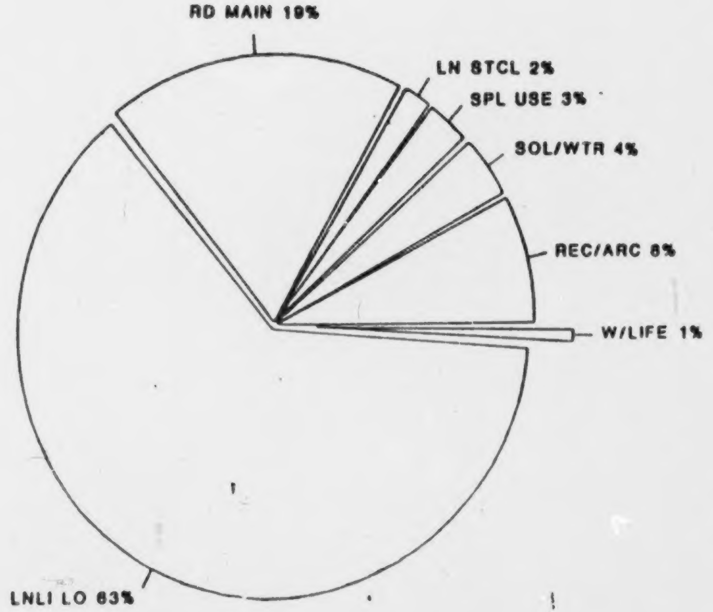


Figure 2.

This represented 19 percent of the support cost to timber sales. These costs are shown in Figure 2.

Much of this support cost is not a direct cost of selling timber. Rather, timber management activities provide impetus to prioritize or schedule the other activities at a given time. Land line location, for example, should be done regardless of what activities take place on the land. Land lines need to be established prior to sale of timber, but will need to be determined at some point even if timber were never sold. The same rationale applies to cultural resource surveys and, to a certain extent to road maintenance activities.

Historically, Congressional appropriations have been more generous to the timber function than to most other functions. The result has been that substantial portions of the cost of other resources, uses, and activities have been funded as though they were part of the timber program. Support costs on the Black Hills in relation to the product values and direct timber costs are significantly higher than costs on similar Forests and the R-2 and national averages.

2. Timber Management Support to Other Resource Programs

While the costs of accomplishing the timber sale program includes the cost of other resource support to timber management, the cost of accomplishing other resource programs does not include the costs of the timber management support. There are some timber management costs that support other resources that are identifiable, but most Forests do not account for them since it is a small percent of their total timber management costs. Nationally, approximately 5 percent of appropriated timber funds are used in support of other program components, mostly for land management planning. The Black Hills estimates about 2 percent of their timber funding is used to support land management planning and estimates another 2 to 4 percent of their timber funding is actually spent in support of other resources programs. This amounts to a 4-year average annual cost of $60,000 to $90,000, which is currently charged to timber management.

3. Miscellaneous Product Costs

Miscellaneous products are either convertible to volume measurement (fuelwood, posts, etc.) or nonconvertible (Christmas trees, transplants, etc.). Convertible and nonconvertible categories include products that are sold and those that are free. In cash flow analysis to date, only revenues from convertible products have been included. The value of free miscellaneous products has not been considered in any analysis.

All analysis of cash flow done so far have included all of the timber management costs of providing the public miscellaneous products. In FY 1983, this amounted to 450,000 sales and 400,000 free use permits nationwide. The Forest Service accounting system does not separately report miscellaneous product costs.

On the Black Hills National Forest demand for miscellaneous products has been relatively small, but has increased at an annual rate of 39 percent in recent years. The negative cash flow for timber sales includes all the costs of miscellaneous products but only 15 percent of the miscellaneous product value. While the miscellaneous products cost and values are relatively small, the Forest cash flow picture for a 4-year average could be improved approximately $100,000 annually by removing miscellaneous product values and costs.

4. Knutsen-Vandenberg and Salvage Sale Funds

A significant portion of the Forests' budget is derived from funds that are retained from stumpage receipts. Spending from these funds, Knutsen-Vandenberg and Salvage Sale Funds (KV and SSF), has been treated as a cost of timber management. The table below shows that KV costs on the Black Hills are relatively high, no matter whether the costs are computed as a percent of the timber value or as a cost per board foot. In this respect, it would be useful to review the KV accounting on the Black Hills and other similar Forests to ensure that the differences in cost are an accurate reflection of differences in managemEnt situations rather than accounting and funding practices.

KV Reforestation and TSI Comparison to Harvest Value 1/

Unit	% REF-TSI KV to Harvest Value	KV TSI $/MBF	KV REF $/MBF	Total REF and KV TSI $/MBF
National	11	1.70	6.34	8.04
R-2	45	3.93	.78	4.71
Black Hills NF	58	7.50	0	7.50
R-3	23	8.03	2.21	10.24
Apache-Sitgreaves NF	26	8.35	1.76	10.11
Coconino NF	19	7.45	1.58	9.03
R-4	30	2.08	5.25	7.33
Boise NF	29	6.72	3.16	9.88

1/ Based on 4-year average annual harvest volume, value, and cost.

D. Some Activities Increase Costs and Reduce Revenues

1. Products Other Than Logs (POL)

On the Black Hills NF, products other than logs (POL), or "roundwood," are defined as material 5.0"-7.9" diameter outside bark (DOB). Due to the prolific regeneration capacity in the Black Hills, high densities of this material increase the time necessary for a stand to reach sawtimber size by 20-30 years. Expressed in terms of the scheduled harvest over the present rotation age, volume would be reduced 17-20 percent if the POL were left untreated. The Forest presently treats POL commercially under existing timber sales by felling and skidding it to the deck where essentially all is utilized in some manner. Approximately 30 percent of the POL has commercial value in the post/pole markets. The remainder becomes fuelwood, most of which leaves the Forest as free use fuelwood. Purchasers of timber sales reduce their bid prices to allow for cutting and skidding these low-value materials. The overall weighted effect of POL on appraisal selling values (log scale) is a $31.58/MBF reduction. Since approximately $15.00/MBF would result in a positive cash flow for the Black Hills National Forest, the treatment of POL may be a significant factor in future decisions. See Appendix A for a discussion of alternative methods of managing POL.

2. Silvicultural Regimes

The choice of silvicultural regimes has a direct effect on below cost timber sales. On the Black Hills NF, a large number of ponderosa pine poletimber stands need thinning. These stands developed naturally, or as a result of precommercial thinning to close spacing in anticipation of markets for small products. Harvest of poletimber is presently uneconomical (see previous discussion, D.1, on POL).

Current precommercial thinning practices, as well as the silvicultural regimes presented in the Forest Plan, are likely to create more stands in need of POL thinnings. If these thinnings are not economical, both the present and future silvicultural activities will have contributed to the below cost sale situation.

Alternative silvicultural regimes have been developed on the Forest to provide big-game habitat. These prescriptions use a lower Growing Stock Level (GSL) to achieve the desired stand conditions. Yield tables developed for these prescriptions show little loss in merchantable volume (MBF), and cash flow is more nearly positive. Although a comprehensive analysis of the relationships between yield and stocking has not been completed on the Black Hills, an example of the principles involved is included in a recent study of commercial thinning in the Pacific Northwest (Crim, Sarah, K. Norman Johnson, and Nancy Graybeal, 1983 Commercial thinning study; unpublished; document on file; USDA Forest Service, Pacific Northwest Region, Portland, OR, 41 pp.). This study evaluated the relationships between stand-level and Forest-wide objectives. A key finding was that forest inventory structure directly affected the optimal silvicultural regime at the stand level. On Forests with a deficit inventory structure, Allowable Sale Quantity (ASQ) was increased by regimes which maximized the present net value at the stand level. A key factor was rotation length; shorter rotations increased the ASQ in deficit inventory Forests. In addition, the volume from commercial thinnings directly affected ASQ. Analysis in coast Douglar-fir indicated that the greatest increases were often associated with delayed thinnings which removed heavier volumes. These regimes also produced substantially larger trees. The result was not only an increase in ASQ, but, in addition, the thinnings became profitable. These relationships appear to be directly applicable to the Black Hills.

Precommercial thinning densities are usually related to site quality in the Black Hills. Residual stocking following treatment varies from 250 to 300 trees per acre, or roughly 12x12 ft. spacing. These precommercially thinned stands will reach densities where they are susceptible to mountain pine beetle attack before they are sawlog size. Wide spacing alternatives, in the range of

130 to 170 trees per acre (18'x18' to 16'x16' spacing), are not prescribed for Black Hills ponderosa pine, primarily because of the tendency for such stands to reseed and create a second age class. Although prescribed fire has not been used extensively in Black Hills ponderosa pine to control within-stand seeding, it has been used elsewhere with good success. These factors show that silvicultural regimes affect below cost sales in two ways: directly, in treatment of existing stands, and indirectly, where the planned regimes for future stands can create, or avoid, the conditions which contribute to negative cash flow.

A variety of silvicultural strategies could alleviate the below cost timber sales on the Black Hills National Forest. Wide initial spacing of ponderosa pine, with lower Growing Stock Levels than those now used on the Forest, could produce sawlog-sized thinnings at the first entry. Prescribed fire may be needed to reduce competition from new seedlings. Lower density stands would be less susceptible to bark beetle decimation.

Silvicultural prescriptions based on these approaches would differ from those described in the Forest Plan. Several steps would be needed to analyze feasibility and reasonableness:

a. Determine the comparative risks of managing for POL vs. sawlogs at the first commercial entry. Include an analysis of the potential for future markets.

b. Evaluate the potential of prescribed fire to control within-stand seeding of ponderosa pine.

c. Estimate the yield differences for different stocking regimes, both at the stand and at the Forest level. Use forest inventory structure as a tool to design silvicultural regimes which meet harvest objectives as well as provide operational feasibility.

3. The Effect of Timber Sale Scheduling on Cash Flow

A National Forest has an opportunity to influence year-to-year cash flow by the way in which it constructs the timber sale schedule. The different stands on the Forest have different harvest volumes, values, and costs. By concentrating high return or low return stands in any particular time period, the Forest can raise or lower the total cash flow associated with the timber program.

The data in the planning records and the FORPLAN model can give some insight into the potential range of this effect for the Black Hills National Forest. The following table shows the present net value per acre for the various analysis areas in the model:

Condition Class	0-40% Slope	40-55% Slope
P31	$216 to 254	$204 to 229
P21	178 to 254	162 to 214
PB1	144 to 221	155 to 156
SC1	167 to 211	164

P61	175 to 181	156
SB1	119 to 150	55
P11	93 to 148	80 to 112
AB1	112 to 118	
PA1	69 to 111	85
P51	39 to 78	39 to 49
P41	46 to 48	

The volume per acre, which affects both harvesting costs and timber purchasers' willingness to pay for stumpage, also varies through a wide range:

Condition Class	Volume per acre (MCF)
PA1 & P11	.968
PB1 & P21	1.821
P31	3.061
P51	1.248
P61	1.968
SB1	2.084
AB1	1.596

Road costs per acre, which influence purchaser credit allowances and the Forests' net return from harvesting, vary through an even wider range:

Land Area	Road Cost (1978 $/acre)
55% Cable Logging	296 to 160
0 to 40% Poor Access	185 to 162
40 to 55% Tractor-Cable	173 to 34
0 to 40% Tractor	130 to 31

Given this variation, the question that emerges is whether the Forest has any opportunity to improve its cash flow by reordering the stands in the harvest schedule shown in the Forest Plan. Unfortunately, there is insufficient information available in the planning records to answer the question. There are several difficulties.

First, the cash flow associated with the timber harvest schedule in the FORPLAN model was never explicitly calculated. It is difficult to compute cash flow with Version 1 of FORPLAN, which the Forest used, but some inferences about the cash flow are possible--see Section III that compares recent operating results on the Forest with the Forest Plan.

Second, there is no information available in the Forest's planning records that can be used to compare the harvest schedule derived with FORPLAN with the harvest schedule that the Forest presented in the plan and is actually following with the timber sale program. The information that is needed is a specification of the analysis areas affected by the sales named in Appendix A of the plan.

Thirdly, the plan presents no calculations of the cash flow associated with the timber sale program. These calculations are fairly simple. The results could be estimated when the timber program is first established and further refined at little cost fairly early in the sale preparation process.

4. Appraisal Procedures

a. Selling Price Index

In 1978, the Black Hills National Forest changed the basis for establishing appraised selling values by switching from the Ponderosa Pine index to the Whitewood index. The Ponderosa Pine index was being discontinued, and the Forest was faced with a choice between the Rocky Mountain Ponderosa Pine index and the Whitewood index. The latter was selected because the Forest thought it would be more representative of marketing and milling conditions within the Black Hills marketing area.

The initial change from the Ponderosa Pine index to the Whitewood index resulted in a substantial reduction of appraised selling values. This difference in value is illustrated in Table 2. This reduction, coupled with a downturn in the Whitewood lumber index between 1978 and 1982 (see Figure 1 above) because of poor market conditions, contributed to less revenue being appraised for, or received for, timber sold during this period of time.

A recently completed review of the Black Hills National Forest appraisal procedures, by a joint Forest Service/Timber Industry review team, pointed out that the Whitewood index did not represent the mix of products found in the Black Hills marketing area, and also did not reflect seasonal fluctuations in selling prices experienced in the Black Hills.

For these reasons the review team recommended that a unique Black Hills index be developed that "reflects the product mix and values in the Black Hills." To date, no action has been taken to develop a new index. The Forest and Region recently decided not to initiate this recommendation and to continue use of the Whitewood index.

The joint review team's report indicates that the development of a new index, unique to the Black Hills, could have the effect of further reducing appraised selling values. If this is the case, the Forest could reasonably expect even more decline in the revenues they receive for the timber they sell because purchasers might logically tend to offer as little as they possibly can to buy the timber. This would be especially true in the case of one bidder sales.

Traditionally, as with other National Forests, the Black Hills offers their annual timber sale program in fixed amounts for each quarter of the fiscal year. Since the Whitewood index fluctuates up and down throughout the year, the Forest finds themselves in the position of selling timber sales during low market periods when the selling values are at their lowest point. It would appear that an opportunity exists to generate additional revenues by selling only during projected upswings in the market.

BLACK HILLS FOREST AVERAGES

FY	Sawtimber Vol(MMBF)	POL Vol(MMBF)	Total Vol(MMBF)	Appraised Net Rates	High Bid Rates	Stat. High Bid	Overbid $/M	Size of Sale	# of Bidders
77	76.3	30.7	107.0	43.24 (CT 4th 1/4)	59.67	50.44	7.34	2.8 (0.3)	2.9
78	146.9	31.2	178.1	51.45 (CT 4th 1/4)	66.63	66.63	15.18	5.0 (1.3)	2.3
79	118.6	26.6	145.2	28.50 (CT 4th 1/4)	52.50	29.38	0.88	5.1 (1.0)	2.6
80	100.9	23.6	124.5	2.89	19.12	5.54	2.65	5.2 (1.2)	1.9
81	128.3	40.5	168.8	2.16	30.18	18.02	15.86	6.3 (1.9)	3.0
82	81.3	22.3	103.6	2.28	13.35	6.95	4.67	3.8 (1.0)	2.4
83	76.8	1.6	78.4	18.05	30.11	18.58	0.53	7.6 (-0-)	1.9
							Ave.	4.2 (0.7)	2.6

TABLE 3
INDEX OPERATIONS
(BLACK HILLS ZONE)

Basic Data Period 1/
CY 1982

	Prior Admn. Decision 4th Qtr. 1983			After Admn. Decision 3-month Composite	
	Sawlogs (MBF)	Roundwood (CCF)		Sawlogs (MBF)	Roundwood (CCF) 3/
2. Species	PP (Whitewood Index)	PP	Wt.Avg. 2/	PP (Whitewood Index)	PP
6. Selling Value L.S.	266.77	121.19	(237.66)	237.82	
7. Adj. Factor	1.2235			1.1857	
8. Ad. S.V.L.S.	369.39	121.19	(319.75)	281.98	
9. By Products	19.17	2.63	(15.87)	18.43	
10. Selling Value L.S.	345.56	123.82	(301.21)	300.41	
29. Subtotal, Logging Costs	97.32	56.55	(89.17)	113.88	
34. Mfg. Costs	133.51	113.95	(129.60)	126.15	
35. Total Production Cost L.S.	230.83	170.50	(218.76)	240.03	
36. Conversion (10)-(35)	114.73	-46.68	(82.44)	60.38	
37. P&R Ratio $ Normal/Adv.	10%	10%	(10%)	18%	
38. P&R Margin Normal/Adv.	31.41	11.26	(27.38)	36.89	
39. Ind. Net Stumpage (36)-(38)	83.32	-57.94	(55.07)	23.49	
40. Base Indices	198.48			192.34	

1/ Base data period for collection of costs began in 1982.

2/ Sawtimber made up 80% of total volume and Roundwood was 20%

3/ Roundwood (POL) does not have a seperate value after decision to combine.

b. Appraisal System

The Black Hills NF uses a standard residual value appraisal process to establish advertised rates. In September of 1983, the Forest redesigned their appraisal process incorporating several recommendations of the previously mentioned joint Forest Service/Timber Industry review committee to redefine overrun factors, adjust profit and risk allowances, and to include roundwood (POL) in sawtimber computations.

Prior to 1983, roundwood was treated as a separate product in the appraisal process.

The effect of redesigning the appraisal process by including roundwood in the sawtimber computations resulted in an average reduction of approximately $32/MBF in indicated net stumpage. This reduction is illustrated in Table 3 which shows a comparison of Forest index sales both prior to and after the change in procedure.

The administrative decision to change the appraisal process appears to have resulted in a reduction of appraised values.

c. Appraisal Costs

Timber sale appraisals on the Black Hills National Forest are developed on the basic premise of assessing logging and manufacturing costs to an operator of average efficiency. This premise does not encourage operational efficiency which would result in reduced appraisal costs. These higher appraisal costs will result in lower advertised rates and probably lower selling values.

5. Slash Disposal/Fuel Treatment

On the Black Hills National Forest, as well as other National Forests, timber activity created fuels are treated primarily to reduce fire occurrence, protect resource and structural values, and increase visual quality. Frequently, the need to increase wildlife and range habitat provide justification for accomplishing fuel treatment. Considering all of these elements, the cost to treat fuels created from actual timber sale harvest averaged $8.45/MBF during the period 1979-83. In the recently completed Forest Plan, the objective is to treat approximately 85 percent (28,500 acres/year) of the timbered area by lopping slash to 18 inches from the ground. When the average cost is applied to this criteria, a cost of $26/acre would result. The remaining 15 percent (5,000 acres/year) would be lopped to a 24-inch depth at an average cost of $10/acre.

The required treatment of fuels generated from thinning trees less than 5-inch DIB is costly. Average contract costs for thinning plus fuel treatment are $82/acre. It is estimated this cost would be cut by 50 percent if fuel treatment were not required.

6. Use of Cash Flow Analysis in the Timber Program

Cash flow analysis does not appear to have been a major consideration in the design and execution of the timber sale program on the Black Hills National Forest. The project managers that met with the task force stated that there has been at least some concern with efficiency. During timber sale design, alternative configurations have been considered, at least conceptually, and efforts have been made to keep costs down. Formal calculation of the cost of alternatives is less frequently done and even less frequently documented in permanent records.

But despite their general concern with efficiency, project managers state that cash-flow analysis is usually not done at all and has had no influence on decision making. They point out that there are no standard requirements to consider cash flow as an objective. Since there is no explicit requirement for cash flow analysis in FSM 2431.22a, there is no reason to expect this situation to change.

Since cash flow calculations are not done, managers are largely unaware of how their decisions have affected the Forest's overall cash flow situation. Most timber revenues have in fact been used for financing of investments in future timber and wildlife productivity, and the completion of the desired road network. These investments have reduced the current returns to the treasury to a fairly small fraction of the current gross revenues from the timber program.

Managers are also largely unaware of how current decisions have affected and will continue to affect future cash flow. Silvicultural prescriptions applied now will influence future cash flow possibilities for the life of the stand. Cutting unit boundaries established now create limits on the ability of managers to generate cash flow from future harvests in the same geographic area. Although these effects are real, there are no estimates of their quantitative significance on the forest.

The key point is that managers are trading cash flow for both current benefits and investments in the future, but the terms of trade have never been clearly defined. The cash flow gains and losses are not computed and presented for consideration at the time that decisions are made, and the offsetting benefits are not identified. In this situation, it is impossible for either the managers or an outside review team to judge whether an appropriate balance has been struck.

E. An Alternative Approach: Custer State Park

The Custer State Park adjoins the Black Hills National Forest and for the most part is a self contained unit with controlled access. The principal use of the park is for recreation and aesthetics. For several years, this unit's operating funds have come solely from receipts generated by the park. The receipts are varied, and include entrance fees, sale of hunting permits, and timber sale receipts. By pooling all operations, including the timber sale program, most pay their own way.

The park has determined that timber sales currently cost $38.19 per MBF and therefore must generate at least this amount in receipts. Timber sale receipts are estimated at $11.09/MBF from Pittman-Robertson funds and $4.36/MBF from the sale of elk permits. This results in a minimum bid rate for the timber of $22.74. The actual average bid rate has been $24.49. Using the actual bid rate, receipts total $39.94, which varies annually depending on exact funding from Pittman-Robertson funds and elk permits.

An interesting aspect of the park's timber operation is the value placed on the elk habitat improvement (maintenance) that results from the timber sale activity. The park sells 200 elk permits annually for $200 each. The permits command a premium price since the hunter success ratio is very high. Wildlife biologists managing the big game herds recognize the benefit of timber sale activity in the elk management program and have agreed that 40 percent of their elk management program depends on vegetative management which can best be served through timber sale activity. Therefore, they pay the timber program 40 percent of the elk permit receipts or $80 per permit.

Besides having a big game biologist assisting the timber sale activity at no additional expense, there are other unique aspects of the timber program, including: they utilize no other specialists; foresters lay out the roads and appraise the sale only if the the market is such that the value of the timber may exceed the minimum advertised rate. Sale preparation costs average about $7.00/MBF and they rarely have an unbid sale.

III. COMPARISON OF THE FOREST PLAN WITH RECENT OPERATING EXPERIENCE

Situation:

The Forest Plan for the Black Hills National Forest shows a net return of about $5 million per year for the period 1981-1990. In contrast, a separate analysis of the cash flow associated with the timber program for the years 1979-1983 shows a loss of $1.5 million per year. A question has been raised as to whether these two figures are consistent, and, more generally, whether the expectations created by the plan are supported by actual operating results in the area of timber management.

This section of the report will compare the operating results shown in the cash flow analysis with the projections in the plan. It is impossible to make an exact comparison between the two documents because they used different time periods and different data definitions. Nonetheless, roughly comparable figures can be found in the two documents and some inferences can be made.

The Cash Flow Analysis

Some of the principal data for the cash flow analysis is summarized below. These are annual averages for the 1979-1983 period expressed in thousands of current dollars.

Volume of timber sold: 125 MMBF

Value of timber sold:	$1,273
Costs:	
Preparation and administration + exams + salvage sale fund	$1,417
Support to timber sales	583
KV timber stand improvement	741
Total costs	2,741
Cash flow	-1,468

(These figures do not match exactly the figures previously published due to a different method of averaging.)

In order to compare these figures with those in the plan, it is important to be particularly careful about the treatment of roads. Purchaser credit roads are included implicitly in the analysis. The figure for "value of timber sold" is net of purchaser credit allowances. The FORPLAN model used to develop the plan, however, does not distinguish between purchaser credit and non-purchaser credit roads. To achieve comparability with FORPLAN, it is necessary to add all road costs to the figures. These costs, and the new totals, are as follows:

Purchaser credit and purchaser elect roads	$1,709
Road construction and contributions	304
Road engineering support	1,351
Total value of timber sold	2,982
Total costs including all roads	$6,105

The result of adding these costs to the analysis is to increase the negative cash flow to an annual average of $3.1 million.

Another change needed to improve comparability with the plan is to net out the effect of inflation. This is done by changing from current dollars to the constant 1978 dollars used in the plan. On this basis, the annual negative cash flow would become $1.1 million with purchaser credit roads only and $2.4 million with all roads.

The Forest Plan: The FORPLAN Model

The most detailed information on the timber program projected by the plan can be found in the solution for the FORPLAN model that was used for the preferred alternative. The figures that are most comparable to those in the cash flow analysis are summarized below. These are annual averages for the 1981-1990 period, expressed in thousands of 1978 dollars, and include all road costs.

Volume of timber harvested: 39.21 MMCF (approximately 170.6 MMBF)

Value of timber harvested:	$7,988
Costs:	
Sale preparation and administration	1,667
Logging costs	50
Precommercial thinning	638
Road construction costs	1,532
Road engineering costs	545
Total costs	$4,135

Based on these figures, the timber program would be expected to produce an annual gain of $3.6 million instead of a loss.

There are several components of the Forest's timber sale program that are not included in either set of figures. For example, the plan calls for annual treatment of 11,370 acres of precommercial thinning backlog at an average cost of $87 per acre. This was not modeled in FORPLAN, nor was it included in the cash flow analysis.

Recent Stumpage Values

The Forest's planning records describe the stumpage value in FORPLAN as the average value for timber sold in the 1977-1979 period. Converted to board foot measure, and net of brush disposal and road maintenance costs, this value is $32.70 per MBF. Recent stumpage values are somewhat lower. The following figures are for actual receipts, including KV deposits and purchaser credit road construction:

Stumpage Value	1980	1981	1982	1983
Current $/MBF	31.63	21.12	9.83	20.28
1978 $/MBF	26.67	16.28	7.15	14.15

The mean value for the 1980-1983 period, expressed in 1978 dollars, is $16.06 per MBF. This is slightly less than half of the figure used in FORPLAN.

Recent Timber Sale Costs

According to the planning records, the basis for the "sale preparation and administration" cost in FORPLAN is the 1980 "Summary of Forest Financial Plans." Certain line items, General Administration, and program management were designated as fixed costs, and the remaining costs were allocated to Forest outputs.

The figure for sale preparation and administration cannot be reproduced exactly by following the process described in the planning records. The cost in FORPLAN, $40.45 per MCF, is approximately equal to the sum of the costs for timber sales, silvicultural exams, insect and disease control, and timber salvage sales, divided by the offer volume for 1980. This computation yields $39.41 per MCF. The 1980 figure was then apparently used directly in FORPLAN without conversion to 1978 dollars.

The cash flow analysis provides some comparisons:

	1979	1980	1981	1982	1983
Preparation + Exams + SSF	$1,100	$1,582	$1,536	$1,390	$1,476
Support to Timber	$ 417	425	704	604	763
Total	$1,517	2,007	2,240	1,994	2,239
Volme Sold (MMBF)	150	124	169	104	78
Current $/MBF	10.11	16.19	13.25	19.17	28.71
1978 $/MBF	9.31	13.65	10.21	13.94	20.03

The mean value is $13.43 per MBF or $58.41 per MCF. This is about 50 percent greater than the number used in FORPLAN.

There appear to be at least two principal reasons for this higher cost figure. First, this cost figure includes some items, such as program management and timber support, that were either treated as fixed costs in FORPLAN or assigned to other outputs of the model. Second, actual unit costs on the Forest appear to have risen somewhat since 1980. Further analysis would be required to determine the relative significance of these two sources of difference.

The year-to-year fluctuations in unit cost may not be significant. Part of the sale program in 1981 and 1982 consisted of resale of previous sales that had been defaulted and returned to the government. Since these sales had relatively few sale preparation requirements, they tended to reduce the apparent unit costs of sale preparation for those years. On the other hand, in 1983 a large part of the offered volume remained unsold. This tended to increase the apparent unit cost of sale preparation for that year. Because of these kinds of events, the multi-year average cost is usually a more accurate estimate of the true unit cost.

The Effect of Changing Values and Costs

The combined effect of the recent drop in stumpage values and the rise in sale preparation and administration costs is sufficient to change the FORPLAN timber harvesting schedule from positive returns to negative returns. These results were obtained by rerunning the Forest's FORPLAN model with the new cost and value figures but with the same timber harvest schedule. The figures are:

	FORPLAN Preferred Alternative	FORPLAN With New Values	FORPLAN With New Values and Costs
Value of timber	7,988	3,748	3,748
Preparation and administration costs	1,667	1,667	2,407
All other costs	2,765	2,765	2,765
Balance: value minus cost	3,556	- 684	- 1,424

Instead of a positive cash flow of $3.6 million per year, the Forest would have a negative cash flow of $1.4 million per year if it followed the plan in the economic environment of recent years. Although not identical, this number is roughly comparable to the results of the cash flow analysis. The key point is that in a short run situation in which prices have fallen and costs have risen, implementation of the plan can produce negative results for timber management. In fact, the plan would actually project negative results for the short run period being examined here.

Multiple Use Benefits

Even with a negative cash flow, timber management according to the plan can be expected to continue to produce multiple use benefits. To determine the magnitude of these benefits, and how they affect the overall balance of benefits and costs, the FORPLAN runs referenced previously can be used. In the following figures, benefits include the marketed outputs of timber and livestock forage and the non-marketed outputs of dispersed and developed recreation, big game hunting, and water. The first column shows the figures in the plan. The second column shows the figures in the FORPLAN run on which the plan is based. The third column incorporates the new lower stumpage values discussed previously, and the fourth column adds the higher costs. All figures are in millions of 1978 dollars.

	Plan	FORPLAN Preferred Alternative	FORPLAN With New Values	FORPLAN With New Values and Costs
Receipts	4.68	7.99	3.75	3.75
Benefits	16.18	13.49	13.49	13.49
Total	20.86	21.4	17.23	17.23
Costs	15.87	14.06	14.06	14.80
Net	4.99	7.41	3.17	2.43

There are some differences between the FORPLAN model and the plan. The plan has a harvest level that is somewhat lower, it includes some costs that were not in the model, and it categorizes costs and benefits in a different way. The net effect of these differences is that net benefits in FORPLAN run about $2.4 million more than in the plan. Making a similar adjustment to the other columns, the primary conculusion is that even in a short run situation of lower stumpage and increased costs, management according to the plan still produces positive overall returns. Appropriately discounted and summed, this would be equivalent to a positive present net value for management.

Implications

The fact that economic conditions can fluctuate sharply over the life of a plan underlines the importance of monitoring. The monitoring portion of the Black Hills plan has two provisions that are relevant to the analysis presented here. It requires that silvicultural prescriptions be reevaluated annually on three districts for "economic viability" (page IV-6 of the plan) and that costs be monitored on an annual basis (page IV-9). The criteria for determining economic viability are not clearly described, and, in any event, there is no evidence that any such evaluation has been accomplished yet. The criteria for costs are more explicit. Whenever costs vary by more than 25 percent, further economic evaluation is required. The evidence reviewed here would suggest that the Forest is in such a situation and that further economic evaluation would be appropriate.

The economic evaluation of timber management might appropriately be broad and comprehensive. Some of the topics that might be addressed include:

--Did the original economic information use the appropriate categories and rest upon a broad enough information base?

--Do the recent changes in prices and costs reflect fluctuations around a stable long-run trend or has the trend itself shifted?

--Do some prescriptions exhibit more sensitivity to fluctuations in the economic data than others and, therefore, involve more risk of negative returns?

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Accounting makes a difference in the results of cash flow analysis.

There are are different interpretations of the program development and budgeting process. Significant reductions in the costs attributable to the timber sale program could be accomplished by clearly defining support costs to timber sales, timber support to other resources, and timber costs of miscellaneous products. This could improve the cash flow of the timber sale program and worsen the cash flow of other resources.

At the present time there are no Service-wide standards for spreading or assigning costs and benefits among resource areas. Today, questions are being asked both internally and externally which will require the Forest Service to address and to change to some degree the method used to assign and account for costs and benefits among resources. This redefinition is clearly beyond the purview of the Black Hills Cash Flow Study team. However, this study did point out the need for such standards and for clear definitions. A separate team to specifically address the timber sale accounting system has been formed. Some of the areas this team should address include:

1. The Forest Service should develop common definitions for terms relating to timber sale economic analysis, including, but not limited to:

   a. cash flow
   b. timber support to other resources
   c. other resource support to timber
   d. timber sale costs
   e. induced benefits

2. The Forest Service should account for costs attributable to the timber program in terms of at least two principal categories of sales:

   a. commercial timber sales (sawtimber and pulp)
   b. all miscellaneous products. A need may surface to further disaggregate miscellaneous products

3. A method for recognizing long term and capital investments should be established. It is unreasonable to apply to a single sale or year the entire cost of a road system which will be used for multiple uses over a long future time period.

4. Standards established to account for costs and benefits must consider the resources which will be required to implement and maintain such a system. These costs must be considered and weighed against the benefits derived from the information such a system would provide.

B. The Forest Service and timber purchasers can substantially reduce costs and raise revenues. This may be accomplished by:

1. Performing an economic analysis of uses of brush disposal and KV collections, of POL policies and requirements, and of all other timber sale requirements to ensure that benefits exceed costs and that methods of accomplishment are most efficient.

2. Appraising timber to costs of purchasers of higher efficiency.

3. Increasing minimum advertised rates to recover more of the timber sale program fixed costs.

4. Reviewing method of determining selling values of residual appraisals - including indices.

5. Requiring timber purchasers to complete a larger percentage of fuel treatment activities in order to avoid the high overhead assessments for Forest Service treatment.

6. Using media publicity to assist in disposing of more slash through the fuelwood program.

7. Evaluating standards and guidelines to ensure that they are commensurate with resource needs and values.

C. Land management planning predictions may not be accurate in the short time period (5 years or less).

1. The Forest Plan needs to be reviewed periodically (monitored). The Forest should reexamine its monitoring plan to determine if the required actions are being accomplished, adequately supported, and given sufficient priority. The monitoring plan itself should be reexamined to determine if it needs to be clarified or developed in greater detail as part of plan implementation.

2. The Forest should make more and better use of sensitivity analysis during the planning process and also when monitoring, specifically relating to costs and benefit values of timber and other resources.

D. Some large gains in cost reduction and/or revenue increases may be made over longer time periods.

1. A wide range of silvicultural prescriptions should be evaluated with the objective of improving cash flow and complying with the management area emphasis established in the Forest Plan.

E. Incremental decisions do not include consideration of effects on cash flow.

1. Develop a National policy requiring cash flow analysis for timber sale programs and/or projects.

2. Management practices that produce higher cash flows should be favored as long as the standards and guidelines in the Forest Plan are met.

3. Establish a local policy that whenever two implementation alternatives are similar in terms of their outputs and resource effects (all meet Forest Plan objectives and requirements), the one with the higher cash flow will be favored.

4. Develop a National policy that management decisions must strike a reasonable balance between current cash foregone and resource benefits.

5. Exceptions to the emphasis on increasing cash flow must be allowed but only with demonstrated analysis and well developed rationale.

F. Market cycles make a considerable difference in Forests' cash flow.

1. To the extent possible, sales should be offered in the period of the year when markets are expected to be strongest.

2. Timber volumes offered annually will be based on volume under contract and market demand as long as the 10-year allowable sale quantities in the Forest Plan are not exceeded. Local conditions may require a minimum annual offering.

G. Present employee appraisal system does not emphasize or reward efficiency and may in fact discourage it.

1. Conduct an analysis of the required line manager performance elements to determine potential effects on efficiency/cash flow and develop a strategy to provide direction and incentives to improve economic efficiency.

V. POSSIBLE LEGISLATIVE AND POLICY CHANGES TO IMPROVE CASH FLOW

At present, Forest Service planning and decision making is done in the framework of benefit-cost analysis. The general objective is to ensure that benefits exceed costs, and benefits are broadly defined to include both priced and non-priced goods and services. But in dealing with below cost timber sales, some critics have suggested that the Forest Service place a greater emphasis on narrow financial criteria such as cash flow. This report has suggested a limited role for cash flow analysis within the existing framework of planning and decision making; that is, as one indicator of management efficiency. If cash flow is to play an even more prominent role, then further actions would be necessary.

In such a situation, the options listed below should be considered. It is understood that the Forest Service is guided by laws, regulations, and policies, and that tradition also plays a strong role in our operations. The options listed below may be contrary to some of these regulations, policies, and traditions. Some of the options would be controversial and perhaps politically unacceptable, but all of them could improve the cash flow of the timber program. They are offered as questions for further discussion:

1. The first step would be the development of policy that determines what costs are attributable to the timber program. This would include road costs--both purchaser credit and appropriated dollars. The policy should also determine whether actual or projected receipts will be used as a measure of returns to the treasury.

2. The minimum bid would be determined by the cost of offering and administering the timber program, with or without support costs.

3. Sale layout and road design standards would be determined by the projected cash flow of the timber sale, and environmental enhancements would not be done unless there were sufficient sale revenues to support them.

4. The suitability of lands for timber harvest would be determined by cash flow analysis and not present net value. Suitability determinations would be made periodically and the timber base might fluctuate which would result in numerous recalculations of allowable sale quantities. The timber base fluctuations would probably result in amendments and/or unplanned revisions of forest plans.

5. Limit volume under contract to x number of years. This is management of the supply side of the equation to ensure that demand for the product would remain at a level that would result in bid prices maximizing the opportunities for positive cash flows. Offered volume amounts would be determined by volume under contract and no bid sales as long as decadal allowable sale quantities are not exceeded.

6. The method of funding the Forest Service timber program and accounting for accomplishments would be changed to permit fluctuations in volume offered and volume administered while maintaining a reasonably stable work force capable of responding to the fluctuations.

7. Manufacturing and logging costs allowed in sale appraisals would be based on the most efficient operators and not the operator of average efficiency.

8. The Forest Service would contract for force account felling and skidding and auction the logs and other products on the landings to the highest bidders. Base rates would be no lower than the total costs to place the logs and products on the landings, including all Forest Service costs.

9. Other resource uses that are attributable to the timber sale program such as use of roads constructed with timber funds, hunting in habitat improved with timber sales, etc., would be on a fee basis. The fees would be determined by the marketplace, but would have a base rate that would recover total cost of administering the collection program.

10. The Forest Service would require line managers at the field level to ensure that expenditures--sale layout and design, road design, timber stand improvement, reforestation, and sale administration--were commensurate with the value of the product being produced.

11. A performance element in annual performance requirements would be developed that would establish incentives for efficiency of management as it directly relates to cash flow.

12. Limit the collection of BD, SSF, and KV--other than KV reforestation--funds to the amounts available after determining the costs attributable to the timber program. In other words, keep the cash flow positive.

13. Regional Foresters would be given the authority to emphasize the production of products other than sawlogs, i.e. Christmas trees, wildings, fuelwood, etc., on rotations that would provide greater cash returns than traditional sawtimber management.

14. Funds that are used for vegetative manipulation (timber sales) on lands that have been identified in a Forest Plan as having a management emphasis on something other than wood fiber production would be provided by the benefiting function. For example, the wildlife function would pay for timber sale preparation and administration on the 27 percent of the Black Hills National Forest that has a wildlife habitat emphasis. The benefits from the timber sale, including timber volume, would be credited to the wildlife function.

At this time, the interest in cash flow is directed solely at timber sales, but eventually the interest should expand to the other resources: range, recreation, wildlife, and water. Similar actions should be considered in these resource areas.

VI. APPENDIX

The alternatives for recouping all or part of the $31.58/MBF reduction of selling values due to POL requirements are:

a. Leave the POL standing without treatment. This would have the effect, over time, of reducing the sale program of 118 MMBF by 17-20 percent to a level of about 95 MMBF annually. Average annual sawtimber harvested over the last 5-year period is approximately 72 MMBF, and the volume harvested in 1983 was 103.5 MMBF. By following the initial sawtimber entry with a post and pole commercial product sale which would treat approximately 30 percent of the area, an additional 7 MMBF annually could be added to the 95 MMBF sawtimber program for a total of 102 MMBF which exceeds all but one harvest year on record.

b. Fell the POL and leave it in place. In effect, the POL would be treated similarly to precommercial thinning material. This would not affect selling values, but would depress the indicated net stumpage by $2.98/MBF (estimated felling costs). This alternative would increase fire risk, and accepting this level of risk would have to be evaluated on a case by case basis. Some of the hazard could be reduced by removal for fuelwood and other products and by prescribed fire. The amount removed for fuelwood and other products would probably increase over time, as the public became accustomed to removing scattered material and the demand increased, but would not be more than 50 to 65 percent of the felled volume.

c. Treat POL separately in a precommercial thinning operation. This would cost about $117/acre and would probably not be a viable alternative since the same objective could be achieved by Alternative b at lower costs.

d. Prevent POL from developing by use of prescribed fire. There are no reliable costs of this alternative. This alternative would be limited only to those stands with an acceptable overstory stocking and an understory of regeneration in competition.

e. Optional removal of POL by timber sale purchaser. This would in effect allow the purchaser to remove POL without appraisal cost allowance, but would also result in no receipts. Removal of the POL under this alternative may be expected to be sporadic, and no additional sawtimber yield could be depended upon.

EXHIBIT III

Black Hills Forest Resource Association
Post Office Box 472
Custer, South Dakota 57730
(605) 673-3744

BELOW COST TIMBER SALES

The Black Hills Forest Resource Association is a trade association whose members manufacture lumber in the Black Hills of South Dakota and Wyoming. As lumber manufacturers, they are primarily dependent upon National Forest timber for their raw material. In order to manufacture lumber a work force of 2,500 people is directly employed in logging and manufacturing in the Black Hills. Industries such as equipment sales and service, fuel service, and energy service are directly dependent upon the logging and manufacturing industry. Another industry dependent upon lumber manufacturing is the Merillat plant in Rapid City. It is dependent upon the by-products supply from primary lumber manufacturing. Besides creating direct employment of 2,500 people, lumber manufacturing is creating an economic activity in the neighborhood of $40 million annually.

Forest products companies have been encouraged to locate in the Black Hills by the local communities and the U. S. Forest Service. They were encouraged by local communities for the economic activity created and by the Forest Service for the purpose of managing the timber stands and to create a stable economic force in the communities. The multi-million dollar investments made in plants and equipment have been predicated on Forest Service planning which promises a minimum of 128 million board feet of sawtimber annually to be made available for lumber manufacturing.

Now comes a political issue of "Below Cost Timber Sales". This issue was conceived to stop as much logging as possible on the National Forests. "Below Cost Timber Sales" is a misnomer, but it is having its impact. Currently, the proposed budget for National Forest timber sales has been reduced 5% nationally and 18% for the Rocky Mountain Region of which the Black Hills National Forest is a part. There is a strong suspicion that the Forest Service has targeted the Rocky Mountain Region due to its poor record of high costs, resulting in "Below Cost Timber Sales". If this budget is approved at this reduced level and applied equally to all forests in the region, the Black Hills National Forest will be forced to lower production levels in the future, and it could cause immediate closure of some plants. The real issue becomes one of TIMBER SUPPLY, not "Below Cost Timber Sales". Timber supply is the life-blood of the lumber industry.

At this point, it is appropriate to include some background and describe the "Below Cost" issue. The effects have already been described.

During the Appropriation hearings for the Forest Service in 1984, the environmental community presented the case to Congress that the Forest Service was selling timber for less than the cost of preparation and administration. Congress asked the General Accounting Office to study the situation and report back. The study and report were concluded in 1984. In the report it was found that the

Forest Service was, in fact, selling timber for less than its costs on many forests. It was also found that revenues from timber sales on the National Forest system as a whole was above costs. During the study, it was discovered that the benefits accrued to other forest uses through timber sales were not well documented nor accounted for.

Since the General Accounting Office study was completed and made public, the Forest Service has been defending "Below Cost Timber Sales" from many aspects, including the lack of any requirement in law to make money on timber sales; the fact that many other uses of the National Forests are enhanced and protected through the timber sale program; that roads are not an expense of a timber sale and should be ammortized over life and by use; that timber sales are vital to community stability; and that the roads are necessary for general administration of the forest.

While all of the above points may be true and patriotic, the fact remains that Congress has reduced the Forest Service Budget for FY 1986 by 5% for timber sales, and in the Rocky Mountain Region the reduction appears to be an 18% reduction due solely to the "Below Cost" situation.

The technical responses are difficult for lay persons to grasp, but attempts at education are necessary if the timber industry in the Black Hills is to survive. The Forest Service is the major timber holder in the Black Hills. Over 75% of the available timber in the Black Hills is administered by the U. S. Forest Service.

Why does it seem that timber sales are offered to the public for less than the cost of management activities?

To understand this, you must have a working knowledge of the laws governing the Administration of the National Forests. Congress has charged the Forest Service with providing multiple benefits from the National Forests, benefits which include recreation, water, wildlife, grazing and timber. There was no consideration given to the VALUE of these BENEFITS. They are primarily social benefits, and it is doubtful that there can ever be agreement as to the dollar value of any of them. However, in its zeal to stop timber harvesting on the National Forests, the Environmental Community discovered that timber is valued, and the law requires that timber cannot be sold at less than the appraised rate. At the same time, the Environmentalists looked at the Forest Service budgets and discovered that, on paper at least, it seems to cost more to sell timber than the apparent return to the government. (No consideration is given benefits other than timber.) During these times of high government deficits, this might seem to be a real cost savings to the Federal government - to quit expending money on timber sales that do not return costs.

There are several fallacies in such an approach, however, and they deserve our full consideration. First might be, what would happen to the land management benefits accruing from timber management? Timber harvest to improve wildlife habitat would be stopped, the increased water yields would then be brought to a standstill along with the reduction in available grazing opportunities, and of course road construction and maintenance would be brought to a standstill thereby reducing recreation opportunities and administration access. While dollar values of the attendent benefits may never be determined, they are real values to society and many of them have real economic spin-offs, spin-offs such as sales and services of recreation vehicles, hunting equipment, camping equipment, the community services such as motels and restaurants serving the various recreation activities and, of course, the taxes generated from these activities.

A timber sale is appraised to indicate the minimum value of stumpage to be received by the government. This is usually done using the residual value method as follows: Market Value less manufacturing costs less logging costs. To illustrate this method by using assumptions, we arrive at the following: Market Value of lumber $200, minus manufacturing costs of $100, less logging costs of $100, leaves a residual stumpage of $0. This indicates only one value of a timber sale however - the stumpage, as used by the Environmentalists to illustrate a particular point of view. In fact this timber sale would return a minimum of $8 for stumpage, plus a predetermined amount of slash cleanup, plus an amount for replacing road rock, plus the construction or reconstruction of roads. This would total something in the neighborhood of $30 per thousand board feet for an average timber sale in the Black Hills. The point is, stumpage is not the only value received in a timber sale offering. In this example the dollar values which can be identified include: stumpage, slash work, road improvement work, and road construction. There is even more value received, but alas, there are no hard dollar figures which can be assigned to these values. Later these other values (benefits) will be described in detail. They include recreation, wildlife, watershed and grazing.

At this time, it is important that a decision be made. Should the Black Hills National Forest be managed, and if so, for what purposes? If it should be managed, should the benefits of timber harvest be one of the purposes of management? It has long been known that the harvest of timber is the most cost-effective method of accomplishing the multiple benefits (values) which this Nation expects from the stewardship of its National Forests.

Until a few years ago, the sale of timber from the Black Hills National Forest provided positive cash-flow to the United States Treasury. Our economy seemed strong and timber harvest returns were well in excess of costs. As time went on, more restrictions and more work benefiting other values were included in timber sale contracts. It seemed that the Nation could afford to continue to include more and more costly work and more and more costly restrictions in the name of the environment - timber values were high and increasing, and it was affordable. The timber industry went along with the higher costs because it could be afforded. Times have now changed. We can no longer afford all of the luxuries. Today government policy restricts American exports of logs and permits unrestricted imports of foreign lumber. The government competes for money causing high interest rates which in turn depresses the housing market. In total, government policies have depressed the lumber markets of today. To now require that timber be sold above Forest Service costs without constraining Forest Service costs and without relaxing costly constraints in timber sale contracts does not honestly address today's economic realities.

A decision regarding the sale of Federal timber at "Stumpage Rates" less than government costs, is a decision whether there should be a Black Hills timber industry or not. If government costs and policies are not controlled and if contract requirements are not made more realistic for current economic conditions, there will be no Black Hills timber industry.

The Black Hills Forest Resource Association is composed of members who have trusted the Forest Service as a qualified and professional agency that will perform. They have made large economic commitments based on the encouragement and professionalism of the Forest Service. There are areas of cost savings which could materially improve the economics of Black Hills Timber Sales, and they can be implemented without long-term "environmental degradation". These elements of the "Below Cost Timber Sale" issue will be discussed individually.

Forest Service Administration. Currently, the Forest Service and the Bureau of Land Management are interchanging the administration of lands under the jurisdiction of the two agencies. The goal is to combine offices, reduce travel and consolidate duplicate services. The same principle can be applied to ranger districts. Ranger districts are an arm of the Forest Supervisor's administration. By combining ranger districts, overhead costs can effectively be reduced in many areas. While the Forest Service has not publicly discussed this type of administrative savings, it has over the last five years discussed many other savings to Forest Service timber harvest programs and to industry savings.

Utilization Standards. Current utilization standards in the Black Hills reflect the past ability of the industry to market roundwood and to make up losses on small material through high lumber prices and low logging and manufacturing costs. Lumber prices have not recovered their strength since 1979, while logging and manufacturing costs have escalated with inflation from 1979 levels. It is now imperative that utilization standards reflect current conditions. Removal from the woods of unmarketable and substantially sub-marginal material is not utilization - it is high-cost removal.

Silvicultural Prescriptions. By using silvicultural prescriptions which remove more of the merchantable sawtimber stand in each harvest entry, the cost of timber sale preparation and administration can be reduced. This also reduces the purchasers' costs of logging. It reduces the miles of road construction needed to harvest a given volume of timber, lowering road construction and engineering costs as well as increasing volumes per acre harvested.

Timber Sale Preparation. Sale areas must be defined in logical logging units. Terrain and access must be known and considered when preparing a timber sale. The silvicultural prescriptions must be well defined and accurately adhered to during the marking process. By making efficient use of equipment and manpower and concentrating efforts, Forest Service timber sale administration costs will be reduced as will purchasers' costs.

Contract Requirements.- Contract requirements should be the minimum necessary to accomplish the objectives of land management planning and specific sale area objectives. Long-term objectives can many times be met in longer time frames than are currently being required. Slash reduction for aesthetic purposes is an example of long-term objectives which can be met with less stringent requirements. Encouraging the use of mechanized equipment wherever possible will help to reduce logging costs. It is recognized that this will require knowledgeable timber sale administration, but it will save substantial amounts of logging costs.

Exotic Logging Systems. Requiring the use of exotic and expensive logging systems is not cost-efficient for logging, pre-sale engineering or timber sale administration. Cable logging, balloon logging and helicopter logging are too expensive to use on the tractor-cable ground of the Black Hills (98%). In fact cable yarding was proven to be too expensive in the Rocky Mountain Region during the high market conditions of 1979. It requires tremendously high-value timber, and large volumes per acre removed to justify these logging systems. Preparing and not selling these types of offerings is a high-cost item to the Forest Service which returns nothing and adds to the below cost situation. This has occurred and is continuing to occur in the Black Hills.

Road Design and Location. Public Law 88-657, The National Forest Roads and Trails Act of 1964 requires in Section 4, "That where roads of a higher standard than that needed in the harvesting and removal of timber and other products covered by the particular sale are to be constructed, the purchaser of the National Forest timber and other products shall not be required to bear that part of the costs necessary to meet such higher standard, and the Secretary is authorized to make such arrangements to this end as may be appropriate." It is recognized that the many users of National Forest roads would feel uncomfortable and unsafe on roads designed strictly for timber harvest. The law, however, requires that the purchaser is not required to build such higher standard roads. It is time to drop such requirements or appropriate money to do the higher standard engineering and construction.

Appraisals. All timber sale requirements should be considered in light of effects on costs. Skidding distances, utilization standards, slash reduction requirements and cleanup for view areas are examples of items which increase the costs reflected in appraisals. Timber sale requirements have become so onerous today that it is almost impossible to determine which are logging requirements and which are service contract requirements. Logging crews have become landscape contractors. They are not organized for such work and generally not mentally prepared for such work. The primary goal of logging is to remove logs, and any other requirements become hurdles to overcome.

Volume Estimates. Volume estimates are critical to good appraisals. If the volume estimates are inaccurate, the appraisal will be inaccurate. This affects road costs and credits, down payments, cutting unit payments, estimated logging costs and estimated manufacturing costs.

To this point, the discussion has included areas of cost savings to the U. S. Forest Service and to the timber purchaser. These savings individually will not make the government whole in all cases and especially with current market conditions. When combinations of these suggestions are implemented, a positive cash flow to the government should occur from most timber sales, even with current market conditions. There is a likelihood, however, that the public may not want the Forest Service to concentrate solely on a positive cash flow when the loss of multiple-use benefits are considered. If this is the case, it should be documented. In any case the current benefits from timber harvest can be maintained only if timber sale offerings can be made more economically attractive to timber purchasers. Without timber being harvested, no timber harvest benefits can be accomplished.

The other multiple-use benefits that are related to timber harvest which are not qualified in dollars include the following:

1. Employment and Community Stability. The effects of this have already been described. The U. S. Government Accounting Office, however, says that the value added to each timber harvest dollar amounts to $22. The current purchaser cost of timber in the Black Hills averages over $30 per thousand board feet. Calculated on FY 1984 sawtimber cutting, it amounts to $3,360,000 (112 MMBF). Expanding this by the value added at 22:1, it amounts to almost $74,000,000 in the Nation's economy. Locally, it created $40,000,000 in economic activity and approximately half of those dollars are spent in direct salaries which return approximately $4,400,000 in withholding taxes and over $2,800,000 in F.I.C.A. taxes to the Federal Government. This leaves approximately $12,800,000 to be spent in the local communities annually. This industry also constructs and maintains the roads which are used by snowmobilers, campers, bikers, hunters, sightseers, and fisherment - activities which augment the local economies.

2. Wildlife Habitat. This benefit can and does occur by timber harvest. It can occur without any special effort in a timber sale by simply increasing the available forage for wildlife and by creating a diversity in the forest canopy. In many instances deliberate action is taken to increase winter range for big game animals or to create special habitat for birds and non-game species. These deliberate actions cost extra time in preparation and harvesting. Over ½ of the Black Hills National Forest is managed for wildlife through timber management activities. This is a benefit, the cost of which should not be borne by the timber sale program.

3. Water Yield and Water Quality. Water yield is increased through timber harvest by creating openings which allow snowfall to accumulate on the ground rather than in trees. This reduces evaporation rates and allows spring thawing to penetrate into the soil. Without trees using water for their life processes, transpiration rates are also reduced allowing more ground water to flow to streams. Studies by the South Dakota Department of Game, Fish and Parks have shown that many miles of streams have been lost to fisheries. This has occurred partly because the forest has been successfully protected from fire since its establishment as a National Forest. As the trees established themselves, they used the ground water which was previously percolated to the streams. Increased harvest allows more water to percolate to the streams once again.

Many timber sale offerings provide plans which allow for the collection of money to do specific fisheries habitat improvement work within the sale areas. This money would not be available without the timber sale program.

4. Grazing. Grazing benefits are derived in two ways. Between the development of timber stands, there is a period of increased forage productions called transitory grazing. Secondly, as wildlife habitat is improved, wildlife will move into these areas relieving the pressure on lands devoted to domestic stock grazing.

5. Recreation and Aesthetics. These benefits are derived from almost every timber management activity. Harvesting of trees creates a diversity of stands of trees which is more pleasing to view than absolutely uniform tree stands. It creates a healthier stand of trees and a more open ground area (park-like). In order to harvest trees, roads are required. These roads serve as snowmobile trails in the winter, hunting and fishing access during such seasons, recreation vehicle access for camping, general sightseeing access and even trailhead access for horsemen and hikers. Many aspects of providing these recreational and aesthetic values require costly restrictions as well as additional work in timber sale contracts. These costs are considerable and should be borne by the benefiting users.

6. Insect and Disease Control. Insect and disease control can usually be accomplished in the normal course of timber management activities. Occasionally, however, insects will build to epidemic proportions and special timber sales need to be prepared to control the buildup. These sales require quick action and produce low values. Only a healthy timber industry can mount an effective counterattack since these sales are costly to prepare and harvest. They are necessary to maintain a healthy and pleasing forest community. These costs would be incurred even without a timber sale program and should properly be absorbed by the general administration of the Forest rather than the timber sale account. These sales contribute nothing toward the 25% fund for county distribution, due to the fact they are classed as salvage sales.

7. Wildfire Control. Wildfire not only destroys the timber resource but almost every other forest value. Transitory grazing, big game forage and rodent populations may benefit for a period of time, but these same benefits can be accomplished through controlled timber harvest. In order to protect the overall forest and its benefits as well as to protect private inholding values, timber sale contracts require slash reduction that is costly to perform and many times excessive for timber management purposes. Such additional contract costs and preparation costs should properly be credited to general administration or fire protection, not timber management.

8. Firewood Gathering. The Black Hills National Forest requires that all material over four inches in diameter from felled trees be skidded, stacked or piled in specific areas. It also requires that timber purchasers pay for this material, marketable or not. For the most part, it is unmarketable and becomes firewood for public consumption. This is a very costly item to the timber purchaser, and it adds nothing to timber management benefits. The public has again received benefits (values) paid for through timber harvesting activities.

9. Roads. Roads are an asset and are necessary to administer the National Forests. The costs for design, construction and maintenance of forest roads above the needs for timber harvest should be credited against those public benefits received, recreation primarily. Road costs should be allocated to the user group and ammortized over the expected life of the road.

10. 25% Funds. In lieu of paying taxes to the counties, the Forest Service pays 25% of its gross timber receipts to the counties in which timber is removed. Gross timber receipts are stumpage. No credit is given for non-monetary benefits (value added - recreation, etc.). Without timber harvest, the counties would receive nothing from this arrangement. These funds are considered, by the Forest Service, to be a cost of timber management. In truth this is a great public benefit and savings to the taxpayer, since it reduces a federal obligation to counties which have a large federal land base. This is properly a public benefit (value). The 25% funds available to the counties can be greatly increased by implementing the savings proposed in this paper.

GENERAL

Timber management costs are those costs incurred that deal with the growing and harvesting of trees. Because National Forests are managed for more purposes than just timber management, there are numerous costs incurred which are not specifically beneficial to timber management. The above specific benefits are examples of timber management activities and restrictions designed to benefit non-timber management goals.

It appears that all of the costs associated with providing these benefits cannot be accurately determined. Currently, there are several studies underway which are attempting to determine if it is possible to develop a simple accounting system to allocate most of the multi-benefit costs. These studies are also attempting to allocate the benefit values. While the industry supports such studies, it is also important that the Forest Service control its costs in all areas and provide economical timber sale offerings to purchasers. We are approaching the point today that regardless of the benefit costs and values, there is not enough value left in merchantable products to cover the costs of contract requirements. The land can be protected and the bulk of the benefits provided, even under today's market conditions. The problem is trying to provide the last ounce of multiple-use benefits which are costing the last pound of dollars. It is time that the law of diminishing returns is considered in all timber sale offerings.

Attitudes and Awareness -

An understanding of costs as reflected in appraisals should be a priority for all people involved in timber sale planning, preparation and administration. It seems, however, that the various specialists never seem to be aware of the process and costs or returns of the various actions required to complete an economically successful timber sale. There also seems to be an over-sensitivity to "Environmental Criticism" on the part of the Forest Service. This is costing the government, the purchaser and ultimately the public a great deal of money. It is not wrong to be concerned with the environment. We are all concerned with the effects of man's actions on the environment. Research and experience have proven many "truths" about man's actions and environmental responses however. The facts are difficult to explain, but short-term environmental criticism is usually expressed through fear without knowledge of the facts. The Forest Service professionals should know the facts and make decisions on the facts - not the fears of unknowledgeable critics. The Black Hills National Forest is an example of 100 years of timber harvest - and it still exists. It is still producing timber and all of the multiple benefits derived therefrom. It has been clearcut, burned, roaded, and who knows what for 100 years, and it still exists - providing more benefits to more people than ever before. Today, the fear of "environmental criticism" seems to be a cop-out. It seems to be an excuse by which no action need be taken or a justification for action regardless of the benefit values or costs.

The timber industry is not advocating the single purpose management of National Forests. It recognizes the ownership is public, and the benefits are public. An economically healthy timber industry is a real tool to the public in managing these public lands. It asks only the opportunity to continue to produce a valuable and renewable commodity for the benefit of the public through the free enterprise system. When economic times are tough, it is unrealistic for the public to expect a more and more immediate gratification. This will only close out the future completely. It is time to take a hard look at the possibles and do-ables within the current economic constraints of this nation. It is time to look at the protection of the environment for the long run. The Black Hills National Forest, as well as many others, currently operating at "Below Costs" can be made to return money to the U. S. Treasury, and it can be done without degradation of the environment, while maintaining employment, community stability, and increasing the 25% funds to the counties.

Four things must be done in order to accomplish a continuing long-term management of the National Forests.

1. Reduce Forest Service Management Costs
2. Reduce Logging Costs
3. Reduce Manufacturing Costs
4. Increase Product Sales Realization

That has been the purpose of this discussion.

For more information, contact the Black Hills Forest Resource Association. We will be glad to arrange to have your concerns answered.

....BHFRA - 4/10/85....

EXHIBIT IV

LITTLE RIVER LUMBER COMPANY
(605) 787-4836

P. O. BOX 226
PIEDMONT, SOUTH DAKOTA 57769

March 12, 1985

Mr. Pete Johnston, District Ranger
U.S.D.A. Forest Service
320 Ryan Road
Spearfish, South Dakota 57783

Ref: Crooks Sale
Contract #000831

Dear Pete:

By letter, you have directed that certain small logs and pieces meeting contract minimum utilization standards must be removed from this sale. They are located in scrap piles at the landings on the south side of Cutting Unit 5. Your staff has individually scaled and numbered each piece and identified it with red or yellow paint.

From your scale records, I learn that this involves 48 pieces for a total scale of 405 board feet. They are located in 7 scrap piles throughout 5 different landings. Logging on that side of the unit is complete and all logs from those landings have been hauled. A total of 2,760 logs containing 122,260 board feet was processed through these 5 landings. The pieces in question represent 1.7% by piece count and 0.3% by scale.

Our costs for seperating and removing these pieces, on a per MBF basis, will be 9 times greater than our average loading and haul costs for that sale. Our manufacturing costs for these pieces will be 5 times greater than our average. The end product lumber from these pieces would have a selling value 40% below our average selling value at current prices.

These pieces were not negligently or willfully left unutilized. It is impossible for any person handling logs from the control cab of a central loader at a distance of 30 feet from the log to accurately estimate the small end diameter of every piece. It is further impractical and costly for him to dismount the machine and measure every questionable piece.

Two items are significant in this matter.

1. The contract clearly allows for incidental amounts in which removal would constitute gross economic impracticability. Furthermore, it is the long-standing spirit and intent of Forest Service timber sale contract to allow for situations such as this. It recognizes that any undue added cost to a purchaser ultimately results in a lower stumpage value return to the Government, through the cost collection and appraisal process.

2. During the period we were working in those landings, your personel were monitoring our operations closely. I have reviewd the inspection reports from that period and find no mention of any problems with minimum utilization standards in these landings. Your timber sale administration guidlines require such written notice be given while operations are in progress. All of the logs were hauled and our equipment removed from that side of the unit before the matter was brought to my attention.

This letter is to inform you that we will not return to those landings to seperate and remove the pieces in question for the above stated reasons.

As a footnote to this, you may or may not be aware of the time and effort that has been involved in this trivial matter. I am aware of a trip to the area by your inspector which discovered the problem; a second trip by the inspector and the timber sale administrator to further examine the problem; a third trip to perform the scaling but abandoned upon finding 3 inches of fresh snow on the piles; and, a fourth trip to complete the scaling and marking of pieces which consumed a full day for the scaler. The sale area is nearly 50 miles from your office. I do not know the salaries and operating expenses of these people, but I can conservatively estimate that $250.00 was expended by the Forest Service in direct connection with these 48 pieces of wood which yielded a total stumpage return to the Government of $6.49. I can think of no resource value whatsoever that could be benefited in any way to justify this cost differential.

Pete, I am sure you agree that the overall issue of Below Cost Sales poses the most serious threat we have known in many years to the economic stability of Black Hills forest industries. It poses an equally serious threat to the sound and orderly management of this National Forest by your agency. Incidents such as this, small as they may appear, contribute much to that problem.

Sincerely;

Millard Braden

Millard Braden
Forester

MB/sc

LITTLE RIVER LUMBER COMPANY
(605) 787 4836

P O BOX 226
PIEDMONT, SOUTH DAKOTA 57769

March 5, 1985

Mr. Paul Ruder, District Ranger
U.S.D.A. Forest Service
Soo San Drive
Rapid City, South Dakota 57707

Ref: Echo Sale
Contract # 000948

Dear Paul:

I am in receipt of a Timber Sale Inspection Report dated March 1, 1985 and a phone call from Al Martinez regarding a large deck of POL in Unit 6 of the above sale. He informs me that the deck contains small sawtimber pieces meeting utilization standards described in A-2 and C-2.2 in a quanity greater than incidental amounts. Because of this, he has directed that the deck be broken down and the sawtimber pieces be seperated and hauled to our mill yard for presentation for scaling.

As you know, the contract does allow for incidental amounts, however, it lacks a tangible definition of what is "incidental". Furthermore, Al has failed to give me any tangilbe interpertation of that terminology, thus, I can only conclude that his decision is arbitrary.

At this stage, it is our intent to remove that deck as POL, according to our plan, sometime following Spring break-up and prior to May 1. If you wish to provide me with a more definitive interpretation of the terminology in question, I'll be glad to meet with you on the sale to examine the deck jointly and possibly reconsider our course of action.

Sincerely,

MB
Millard Braden
Forester

MB/sc

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Bearlodge Ranger District
P. O. Box 680
Sundance, Wyoming 82729

2450
August 27, 1981

RECEIVED
8 28 81

Heiman Sawmill, Inc.
P. O. Box 218
Hulett, Wyoming 82720

Dear Jim:

All contractual requirements have been met on Units 3 and 5 of your Carson Timber Sale, Contract #03-2390.

The above mentioned units are considered closed.

Sincerely,

David R [illegible]

for WILLIAM E. LIND
District Ranger

United States
Department of
Agriculture

Forest
Service

Black Hills National Forest
Custer, South Dakota 57730

5-24-83

Reply to: 2450

Date: May 13, 1983

Mr. Jim Neiman, President
Neiman Sawmill, Inc.
P.O. Box 218
Hulett, WY 82720

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Dear Jim:

A recent inspection of your Carson Timber Sale #03-2390 revealed that many trees meeting minimum tree specifications in Table A2 have not been cut.

The specifications for tree size in Table A2 are 8.0" DBH for Sawtimber, and 6.0" DBH for Products Other Than Logs. A POL tree must also contain two pieces 8 1/3 feet long to 4.0 inch top diameter.

By letter dated August 27, 1981, William S. Lind, District Ranger, notified you that "All contractual requirements have been met on Units 3 and 5." It is apparent many of the POL trees which met the specifications in Table A2 were not cut in Units 3 and 5. The volume remaining uncut is more than incidental amount. Mr. Lind did not have the authority to reform or modify the contract and accept less than contract specification. The United States Government can not be held liable for acts of its employees that are outside their authority.

By this letter, you are notified that the trees meeting the specifications in Table A2 must be cut and removed from Units 3 and 5. Bill Lind's acceptance of Units 3 and 5 dated August 27, 1981, is void.

If you fail to remove the trees in Units 3 and 5 and complete all other contractual obligations on the remainder of the sale by termination date, you will be accessed damages as provided under B9.4 of the contract.

You should continue to work with Tom Farver, the Forest Service Representative, to complete this sale by the termination date. Tom notified you by letter of May 5, 1983, of the procedures to use if you deem it necessary to request an additional extension of time. Let me emphasize, I will evaluate any such request for additional contract time in light of your completion of all contractual obligations within those portions of the sale where operations have occurred.

This is the final decision of the Contracting Officer. This decision may be appealed to the Agriculture Board of Contract Appeals. If you decide to make such an appeal, you must mail or otherwise furnish written notice thereof, to the Agriculture Board of Contract Appeals, within 90 days from the date you receive this decision. A copy thereof shall be furnished to the Contracting Officer from whose decision the appeal is taken. The notice shall indicate that an appeal is intended, should reference this decision and identify the contract by number. In lieu of appealing to the Agriculture Board of Contract Appeals, you may bring an action directly in the U.S. Court of Claims, within 12 months of the date you receive this decision. In the event you appeal this decision to the Agriculture Board of Contract Appeals, you may request that the Board process this appeal under the "accelerated" procedure (PL 95-563, Section 8f).

Sincerely,

JAMES R. MATHERS
Forest Supervisor
(Contracting Officer)

STATEMENT FOR THE RECORD

OF

MICHAEL C. WELLING
RESOURCE MANAGER
IDAHO FOREST INDUSTRIES, INC.
COEUR D'ALENE, IDAHO

BEFORE THE
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

TESTIMONY TO THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS AND ENERGY

Chairman, Charles O. Whitley and Subcommittee Members:

I am Mike Welling, Resource Manager for Idaho Forest Industries, Inc., headquartered in Coeur d'Alene, Idaho. We operate mills in Coeur d'Alene, Idaho, St. Anthony, Idaho and Medford, Oregon. This geographical diversification has allowed us to assess Forest Service activities on different Regions and address the sales below cost issue.

During the past eighteen months, the issue of Sales Below Cost has become a major issue in the management of our National Forests. The wilderness advocates see this as a strong tool to designate more wilderness areas and further curtail all development opportunities in many roadless areas.

Over the past 10 years there have been many solutions developed by the legislative bodies which have perpetuated huge new workloads on the land managers of our National Forests. Because of these new mandates, many land managers have had to increase their staffs to meet these new demands. Now you are suggesting that these extra costs that the National Forests have been incurring have reached a level that is detrimental to the management of our National Forests and we must now consider curtailing timber sales and other management activities because the initial cost might exceed expected short-term revenue.

This is a change in the ground rules originally set forth by past legislation and we must be able to adapt to it.

My purpose today is to show this Subcommittee that the U.S. Forest Service has finally recognized that cost management is a serious issue and has actively been seeking ways to improve management efficiency.

Most of my discussion will center on Region 1 and the Panhandle National Forest. I know their commitments in this area and I am optimistic that other forests have or will soon initiate similar efforts. As I will demonstrate, there is much to be gained from efforts designed to improve Agency management through sound practices of cost control.

Slash and KV Costs

In the late 1970's the lumber market was good. The Forest Service returns from these sales were very positive. Most Forest Service management efforts were directed to implementing new legislative requirements for multiple use land management with little regard for cost implications. Slash treatment and Reforestation (KV) items associated with timber sales are an excellent example.

As the Subcommittee is aware, besides collecting revenue from these sales, the Forest Service collects large sums to cover these expected slash and KV costs. These are managed as trust accounts for future, post-sale activity, and are never reflected as revenue from these sales.

It was not uncommon for slash and KV collections to average $25-40/MBF on a sale. On an average sale this can be as much as $250,000 - 400,000.

When it became apparent that many sales were not selling because the high costs for brush disposal and KV made them economically inoperable, the Forest Service in Region 1 became very concerned.

They asked industry for our perspective on how these costs could be reduced. The Panhandle National Forest became the pilot forest in Region 1, and with the commitment of both parties, major improvements were made. This was accomplished in two areas:

1. Industry, rather than the Forest Service, began doing most of this work. Even though it was more risk upon the Purchaser, the savings to the Government ranged from 50-200% on all projects.

2. Forest Service conducted a review of reforestation and slash treatment practices resulting in much more cost efficient

proposals. Improved management in this area has been reflected by actual cost reductions of 30-50%.

The Forest Service/industry Committee's findings are now standard management practices on the Panhandle National Forest. We believe more steps can and will be taken, but at least a program model is in place from which other forests can also benefit. Overall, the changes made during the last two years demonstrate a cost savings of nearly $2,500,000 on the Panhandle National Forest. If these guidelines were extended to the rest of Region 1, I would anticipate costs savings in excess of $10 million dollars. We are told that the Forest Service is already moving in this direction.

An example of this study is the graph attached that shows projected broadcast burning costs on the Panhandle. Comparisons were made between industry costs (Potlatch) and Forest Service costs on the different Districts. After reviewing this data, the Forest Service imposed a $250/acre limit on District expenditures as a cost control measure. Encouragingly, actual costs have yet to exceed $200/acre since this directive was implemented. We believe these costs per acre will be reduced even further.

Sales Preparation and Administration Costs

The Forest Service also has recognized that the cost to prepare and administer timber sales could be much lower, and has initiated programs in Region 1 which are designed to reduce these costs. Several proposals such as sale-by-area in low value species, standard taper on logs to lower scaling costs, and better coordination between field personnel are currently being considered.

Region 1 has set goals for each Forest which reflect the magnitude of the cost saving potential from more efficient timber sale preparation and administration practices. The following table summarizes these goals on some forests:

Forest	1984	1985	1986	1987	1988	1989
Panhandle	14.34	13.88	13.42	12.96	12.50	12.06
Lolo	22.08	20.08	18.08	16.08	14.08	12.06
Clearwater	16.28	15.44	14.60	13.76	12.92	12.06
Region 1	17.58					12.29

As can readily be seen, some forests have already been active in reducing costs, but most importantly, there is still much room for continued improvement.

Once these savings are recognized, based on Regional proposed volumes, the reduced costs will approach $6.5 million dollars over 1984 expenditures, or a reduction of 30% in the cost of preparing and administering timber sales.

Although these efforts are certainly commendable, we find that the target of $12/MBF cost for timber sale preparation and administration to be excessive. Most of the Forest Service costs are incurred in preparing Environmental Assessments and Environmental Impact Statements. These are the result of the legislative actions taken in the last 15 years. They are required but you must recognize that they are expensive. Furthermore, they are not essential for timber sale activities, but for coordinating all measures under the Forest Service multiple use mandate.

Employee Reductions

Besides reducing costs in preparation and administration, Region 1 and the rest of the Forest Service have been actively reducing their personnel to further reduce overall costs.

Since February 1982, the Forest Service nationwide has reduced the number of permanent employees by nearly 3,000.

Region 1 during this same period eliminated 504 permanent positions. This amounted to 16% of the nationwide reduction. Only Region 5 had a higher percentage of reduction.

The Panhandle National Forest has been very significant in reducing costs in this area. Not only does the Panhandle share of reduction in Region 1 represent over 20% of the total, but in the last nine months alone the Forest has reduced its engineering department from 91 employees down to 73, which is a 20% reduction in only nine months. This has been in response to legislative and departmental concerns about engineering costs.

These are substantial figures in reducing costs. During this three-year period in Region 1 alone, the savings to the Government must be between $20 and 25 million dollars in salaries and benefits.

Summary

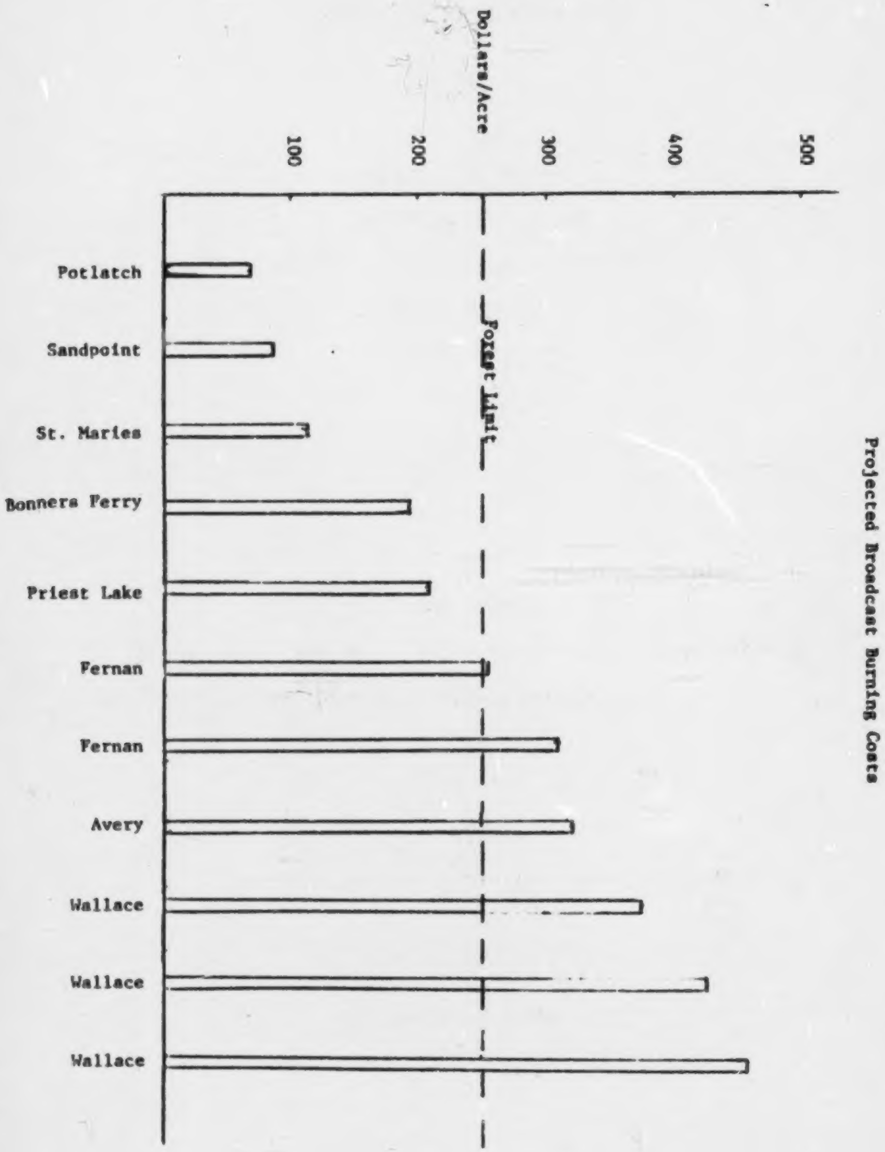
The Forest Service has recognized that, in order to be an effective land manager it must become cost efficient. The agency has taken major steps to reduce these costs and is committed by direction to reduce costs further.

If close attention to cost control had been implemented several years ago, much of the controversy over financial returns from Forest Service timber sale programs would not exist today.

The key to this program is time. The Forest Service needs time to complete and evaluate all the cost savings measures which they have started. The agency also needs time to revise its accounting system to determine the real costs.

To be most helpful today, you the lawmakers need to recognize that changes are in progress and should insist that ongoing programs are carried out and new goals established.

(Attachment follows:)


Projected Broadcast Burning Costs
Dollars/Acre
100
200
300
400
500
Forest Limit
Potlatch
Sandpoint
St. Maries
Bonners Ferry
Priest Lake
Fernan
Fernan
Avery
Wallace
Wallace
Wallace

STATEMENT FOR THE RECORD

OF

JAMES S. RILEY
EXECUTIVE DIRECTOR
INTERMOUNTAIN FORESTRY SERVICES
OGDEN, UTAH

BEFORE THE
SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE

OF THE
UNITED STATES HOUSE OF REPRESENTATIVES

JUNE 6, 1985

I am James S. Riley, Executive Director of Intermountain Forestry Services. Intermountain Forestry Services is a trade association representing forest products firms in Southern Idaho, Utah, Colorado, and Wyoming. The statement I am submitting today is offered on behalf of Intermountain Forestry Services, the National Forest Products Association, and the other industry representatives on this panel. The forest industry has reviewed the information pertaining to the current debate concerning the financial merit of Forest Service timber sale policies. Based on this review, we have reached the following conclusions, which have been illustrated by the previous speakers.

I. The Forest Service can, and should, immediately identify and implement procedures to reduce management costs and to improve the financial return of timber sale offerings.

In recent months the Forest Service has conducted several internal reviews of the timber management program with the objective of identifying measures which would reduce Agency costs and improve the marketable value of timber sale offerings. These efforts include:

1) The organization of Productivity Improvement Teams which have focused on several aspects of the timber sale program from a national perspective.

2) Development of a Value Analysis Program to evaluate the economic returns of specific projects at the field level.

3) Creation of special Task Forces to review the financial situation of timber sale programs on the Black Hills and other National Forests.

4) Concerted efforts by timber management officers in several Regions to study the programs under their administration.

The review teams have all provided specific recommendations for improved management practices. The forest products industry finds that many of these recommendations, if implemented, would result in significant reductions in Agency costs and dramatic improvements in the marketable value of timber sale offerings.

Several other witnesses on this panel have discussed specific examples of cost control and value enhancement measures the Forest Service can implement. To provide a general estimate of the magnitude of the savings cost control measures could generate, I have informally surveyed several firms who manage industrial timberlands in the Intermountain West. Many of these companies operate in a manner similar to the Forest Service whereby harvesting activities are carried out by independent loggers who competitively bid contracts to harvest the private timber. These methods of operation are quite similar to the

Forest Service timber sale process. Harvest units are designated, timber volume estimated, and contracts prepared and administered. The cost incurred by private companies for these activities is \$4.00/MBF as compared to Forest Service costs for timber sale preparation and administration ranging from \$13.00 to \$74.00/MBF. If only half of this difference could be saved by imposing good cost control procedures a large share of the alleged below cost sale problem would be resolved.

II. Implementation of a new accounting system to track the costs and benefits of all Forest Service programs is essential to establish the factual basis upon which the problem can be completely described. Such an effort is also necessary to properly evaluate policy implications.

The one aspect of the debate on which all sides seem to be in essential agreement is that current Forest Service accounting procedures are inadequate to address certain financial questions relating to Forest Service timber sale programs. Difficulties abound due to the multiple use focus of the Agency's management practices. Timber sales are designed to accommodate numerous management objectives, not simply to maximize financial returns from the timber commodity. A meaningful economic analysis of the timber program must include only the cost and benefit information directly relevant to the timber program. Technical experts reviewing this problem generally agree that the cost allocation task, although simple in concept, is difficult to implement from a theoretical and practical standpoint, particularly using existing Forest Service accounting procedures.

The forest products industry wholeheartedly supports the current Forest Service effort to: (1) evaluate its accounting system; and (2) develop a revised system which will better reflect the costs and benefits of various programs. We have discussed several recommendations with the Forest Service regarding the design of a revised accounting system. We are optimistic that, once implemented, the new system will provide much more meaningful data on the complex questions concerning the financial merits of Forest Service programs.

Several examples of the cost allocation problems created by the multiple use management practices employed by the Forest Service have been discussed by other panel members here today. They have illustrated both how Agency costs increase directly to provide for other resources and how cash revenues are commonly foregone as multiple use goals are incorporated in Forest Service timber sales. Robert E. Benson at the Forest Service Intermountain Research Station has recently completed a research study indicating that timber sale revenues foregone in order to achieve other resource goals average $37.00/MBF (range $18.00 to $60.00/MBF). Since current Forest Service preparation and administration costs seldom are in excess of $30.00/MBF, correct accounting and cost allocation procedures which reflect the foregone revenues alone will also account for many of the alleged below cost sales.

III. Consideration of policy alternatives which are directed to establishing financial management objectives for the Forest Service is premature until Agency cost and value control measures are in place and the revised accounting system is operational. Furthermore, all policy proposals should be evaluated in the context of the existing legislative requirements under which the Agency operates.

The testimony presented by this panel demonstrates that there is much the Forest Service can do to improve the financial position of timber sale programs through more efficient management practices. Moreover, several deficiencies in current Agency accounting procedures have been identified and are widely acknowledged. With non-representative historical cost and return data combined with serious accounting deficiencies, it is clearly premature to consider policy proposals which would regulate Federal timber sale programs based on financial return criteria. Until the cost control and accounting problems are resolved, we know little about the true scope of the issue or what is actually causing the alleged problem.

Furthermore, strict financial objectives for Forest Service programs would be in direct conflict with several management policies established by existing legislation. To rationally address policy questions concerning Forest Service management, one must also be willing to reconsider the numerous management objectives and constraints established by existing legislation. We submit that policy proposals directed to regulating Forest Service programs based on financial criteria should be evaluated in the context of existing legislation, not as a separate issue.

I know I speak for all of the panel members when I indicated that we appreciate the opportunity to offer our views. To the best of our ability, we will answer any questions you may have. Thank you.

Statement of H. E. Matics, Wood Department Manager
Westvaco Corporation, Covington, Virginia

Gentlemen, I'm Ed Matics of Covington, Virginia, Wood Department Manager for Westvaco Corporation. I am here today for two reasons. First, I want to indicate Westvaco's support for the Forest Service management plans for the national forests. And, second, to indicate our support for the Forest Services effective timber sales policies. We operate a large pulp and paper manufacturing facility located in the hub of three of the largest national forests in the Appalachians: the George Washington (972,172 acres), Jefferson (673,200 acres), and Monongahela (840,000 acres) respectively. At the present time my company is in the process of investing some three hundred twenty-five million dollars to expand our production facilities, and upon completion we should be consuming approximately forty-two percent more wood, which is projected to TOTAL 7,800 tons per day. Over eighty percent of our wood furnish comes from Appalachian hardwoods which grow in these surrounding mountain forests. At the present only six percent of the wood we use at the Covington mill comes from federal land, but this amount could greatly increase if more sales were offered.

Our fine papers mill at Luke, Maryland employs nearly 2,000 people and has been a major contributor to the economy and tax base in western Maryland for many years. We are now in the early phases of a $250 million capital expansion program at Luke designed to increase production and strengthen its competitive position. About three and a half percent of the wood used by the Luke mill comes from national forests. Nearly all the sawmills and loggers which supply us with raw materials depend upon these forests to some extent for the timber from which they make their livelihood.

I am a professional forester and have worked for over thirty years in the Appalachian forests. I pride myself with not only knowing its timber but its people and its culture. Forests are one of the keys to solving the problems of the Appalachian economy. Under proper management our renewable forest resource can supply thousands with jobs and put millions of dollars into the economies of Virginia, West Virginia, Maryland, North Carolina, and Tennessee. Appalachian hardwoods make the finest of furniture, and our wood and paper products can compete not only in our national economy but on a worldwide basis as well. To reduce timber sales on these national forests because of the term "deficit sales" is folly. There are many good reasons for deficit sales in given areas, but these forests should be looked upon for what they contribute as a whole and not in any one sale area.

The facts are that these forests are underutilized. In the George Washington, Jefferson, and Monongahela National Forests, anywhere from one-quarter to one-third of the annual timber growth is being lost through mortality, insects, and disease. Too much of the timber growth is concentrated in poor quality and slow growing trees. Too few trees are being harvested.

Less than half the growth potential is being utilized. The best way to increase growth and quality is to harvest mature and poorly stocked older stands, releasing the harvested area for new growth. Only when new, vigorous forests are created can we expect full production. Much of the money spent under the Appalachian Regional Commission and other federal programs to help depressed areas could have been reduced if these forests had been managed more intensively. Much of the "deficit sales" criticism comes from the high cost of road construction. But forests cannot be managed until they are accessible. Dr. Carl A. Schenk, founder of the Biltmore School of Forestry, said: "If I had the tongues of angels, I would not sing hallelujah; I would sing more and better forest roads. Accessibility is the foremost prerequisite of sustained forestry." The cost of access roads for silvicultural measures, fire protection, scenic driving, hiking, and harvesting should be projected for their value over the life rotation of the forest and not on a single timber sale.

Year after year, the value of timber sold from the national forests exceeds sale costs. Forest Service figures show that from 1978 to 1983, the costs of the timber sale program amounted to $2.9 billion while the value of timber sold was $8.4 billion. The Forest Service is one of the few federal agencies that returns money to the United States Treasury. However, timber production is not the only objective pursued by the Forest Service through timber sales. The Forest Service manages the national forests for recreation, wildlife, water, and other uses that people want besides timber. They often do additional work on timber sales to pursue these objectives. Landscape architects may advise on how to lay out the sale to enhance aesthetics. Wildlife biologists may work on the sale to improve wildlife habitat. A hydrologist may review the sale in the interest of assuring the protection of streams or springs. And, timber-haul roads may be built to higher standards to provide subsequent access for recreation. An interdisciplinary team will usually take several years to prepare a stand of timber for sale. Some of the costs of this interdisciplinary approach could be attributed to the cost of managing the forest for multiple-use, rather than the cost of selling timber, but they aren't. Under current U.S. Forest Service accounting policies, timber sales help defray the cost of other forest management projects ranging from insect and disease control to wildlife habitat improvements. By any measurable standard, the American taxpayer is receiving a fair return from the timber management programs of the U.S. Forest Service and is not subsidizing the timber industry.

Most studies critical of the timber sale program look only at each year's cash flow. Typically, the Forest Service charges the total cost of building a road into an area of the forest against the first timber sale made form the area, even though the road is a permanent investment that will serve other sales in the future. That's like building a railroad and charging the whole cost against the first trainload of goods to pass over it. That's faulty bookkeeping. By standard accounting procedures, the cost of road construction should be depreciated over a period of years. Finally, the Forest Service has built many of its roads to standards much higher than necessary to move logs because the roads were intended for long-term use to serve recreationists, firefighters, forewood cutters, administrative personnel, and other forest users. Yet present Forest Service accounting practices do not apportion road costs among these other uses. Consequently, timber sales carry the entire cost of developing the road network. The requirements to maintain viable populations of all vertebrate wildlife, the requirements to maintain vegetative diversity, and the limitation on the size of openings created through timber harvest are typical of the expensive restrictions which make the national forest timber sale program so costly. By enacting these restrictions, Congress determined that they were in the public interest. If that is so, then we should not be concerned if the national forests cannot show a profit from a heavily constrained timber management program.

We at Westvaco well recognize the need for fiscal responsibility by all government agencies and the consequences of deficit spending. We are sure that many of the costs of managing the national forests can be reduced. However, in our experience, the personnel of the U.S. Forest Service have been good, dedicated public employees, and we believe overall they have done a good job managing our federal lands. Much of the criticism of "deficit timber sales" by the Forest Service is not by those interested in better accounting and fiscal responsibility but by groups wanting more national forest land designated as wilderness. Their underlying objective is less timber harvesting, and they will use any issue to achieve their goal.

In closing I would like to present the chairman and each member of the subcommittee Westvaco's detailed perspective on the U.S. Forest Service proposed timber management plans for the George Washington, Jefferson, and Monongahela National Forests. While Westvaco continues to plan for the future, the company is ever mindful of its reliance on the forest. We believe the Appalachian forests are too valuable a resource to be locked into single-use management. Wisely managed, forests present opportunity and growth. They are vital to all our citizens and have invaluable potential for our country. We believe in obtaining maximum growth per acre in our forestlands and working to fully utilize each tree. Timber sales on these forests should be increased, not reduced.

STATEMENT OF FEDERATED WOMEN IN TIMBER
REGARDING THE ECONOMICS OF FEDERAL TIMBER SALES
BEFORE THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY OF THE HOUSE COMMITTEE ON AGRICULTURE

June 6, 1985

Mr. Chairman, members of the committee, my name is Mary Lou Franzese. My family and I make our home in the Lewiston, Idaho--Clarkston, Washington Valley. My educational background is in forestry and wildlands recreation. I serve as vice president of Idaho Women in Timber and am currently resource planner for Potlatch Corporation in Lewiston, Idaho.

Today, however, I am testifying on behalf of Federated Women in Timber (FWIT), a federation of 2,000 women from six western states[1/] who believe in productive, environmentally responsible management of our forest resource. We are varied in background and experience--our membership includes homemakers, logging and trucking contractors, business managers, tree farmers, resource professionals and more--but we all have at least one thing in common. Each of us directly depends on the forest for our livelihoods and lifestyles.

Because the federal government is the largest forestland owner in the West, public policy has a major impact on our ability to make a living and on the health of the communities in which we live. For that reason, we sincerely appreciate the invitation to share our thoughts and concerns about the economics of timber sales.

FWIT Resolution

In March of this year, Federated Women in Timber unanimously passed a resolution addressing the issues at hand. Our

---

1/ The Federation includes state organizations in Alaska, California, Idaho, Montana, Washington and Oregon.

resolution, which is attached, makes three main points:

1. We agree with the Forest Service that looking only at near term cash flows is a myopic view of the benefits from forest management. A more accurate picture of the value of the timber sales program should recognize two things: (1) timber management expenditures made in the interests of recreation, wildlife and fisheries, fire and insect control, timber stand improvement, hunting, etc., and (2) the positive economic chain of events initiated by the timber sale.

Exhibit A, which will be submitted for the record, briefly summarizes a few specific examples of wildlife and recreation benefits derived from the federal timber sale program in northern Idaho. One example is a timber sale on the Idaho Panhandle National Forest. In the environmental assessment it was noted that non-harvesting management options were not chosen for the area, because they would not fund a KV wildlife project designed to gather information on specific habitat needs for bald eagle roosting sites.

Exhibits B and C, which will be submitted for the record, are clippings from the Idaho Hunters Association newsletter. They are illustrations of concern by non-timber user groups over the issue of road access, in this case the desire for roads that provide hunter access.

In addition to non-timber resource benefits, evaluation of timber sale economics should include the stream of benefits to local communities and the federal treasury that result from federal sale programs. Forest Service employees, road and logging crews, and pulp and sawmill workers are all paid for their productive efforts, and they all pay taxes. So do the industry suppliers--from equipment and insurance sales to banking services. All these people spend their after tax dollars for food, clothing, shelter and other amenities from merchants who pay taxes. Each step of the way the federal government is there to collect a little more on its initial forest management investment.

We believe when you look at the full picture, federal timber sales are consistently big economic winners rather than financial losers.

2. Federated Women in Timber recommends that the U.S. Forest Service improve its cost allocation system to better reflect the agency's responsibilities and costs to produce other resource benefits. We also recommend amortization of road costs over the life of the road.

3. We further ask Congress to look upon the timber sale program in light of a full cost/benefit perspective before acting on any policy changes for timber resource management. We applaud this subcommittee for its efforts to broaden the evaluation of this issue.

Human Costs

On the cost side of the "balance sheet" we believe there is at least one issue that has been given short shrift in the discussion and debate over timber sale economics: What are the human costs associated with major reductions, fluctuations or uncertainties in federal timber supply?

Attached is a case study of a national forest in Oregon. The study addresses the projected effects of the NFMA planning process on the size (reduction) of the suitable land base and timber harvest, and the related impacts on employment and people in local communities.

We've included this case study for two reasons. First, it illustrates a pattern consistent across national forests in the West: the imposition of Minimum Management Requirements and discretionary multiple use constraints (often developed without full public involvement) which will reduce timber supply, increase costs of operating sales and exacerbate the perceived problem with so-called uneconomic sales.

Second, the study highlights the very real human costs that result from unemployment, costs that should be recognized when public policy changes affecting local communities are contemplated.

The impacts on the family from unemployment and the loss of income are staggering. Dr. Lawrence Flannagan, a specialist providing counseling to unemployed millworkers in a county in Oregon, provides a glimpse of the future for millworkers or loggers deprived of their livelihoods. During the period July 1981 through January 1982, "the Family Service Clinic staff saw 316 patients whose severe depression was either directly related to their umemployment or where unemployment was a significant factor in their depression. Of those 316 patients, 253 (approximately 80%) were suicidal. Many of the 316 patients..., besides exhibiting symptoms of depression also manifested symptoms of alcohol abuse which had begun occurring in flagrant fashion after they had become unemployed."

Reductions in timber receipts will "have a direct impact on the quality of education in the Mapleton District," according to school superintendent James Kohl. Kohl also observes that "students from families where the primary breadwinner is unemployed suffer psychologically and, occasionally, physically. General attitudes of despair and desperation in the home are reflected in the classroom in terms of behavior problems and poor academic performance. Poor classroom performance can also be tied to poor nutrition that can result if there isn't adequate income to purchase proper food in the proper amounts."

In another western county, credit failure and domestic violence became so severe that the local union was moved to provide basic credit counseling for its members. Workers whose financial commitments were based on a five-day pay check needed training to work with creditors to extend payments and survive on a four-day, three-day or unemployment check.

Local school officials in another area have had to find the dollars for extra student counseling services. Teachers and the regular school counseling staff finally demanded help after incidents of child abuse became so serious that teachers could no longer deal with the resulting disruption in the classroom.

We have found that these situations are not isolated cases. As a health professional in my community said, "If you think working is stressful, try unemployment."

Ostensibly, forest planning and other federal decision-making processes must assess the impacts of federal decisions on communities. These impacts, however, are generally reported in terms of "base employment" and "job distribution," descriptions that barely scratch the surface in real human terms.

The Federal Partnership with Schools and Counties

Schools are not only hit with the psychological and sometimes physical effects of unemployment that children bring to the classroom, schools must also try to continue the job of education in the face of shrinking financial support.

For example, voters feeling the financial pinch in a community with high timber-related unemployment recently turned down their local school levy. Teachers were unwilling to take a wage cut, so the school board was forced to announce that 30 teaching positions must be eliminated.

The financial viability of federally timbered counties can be dramatically affected by reductions or big swings in forest fund receipts. It's unreasonable to expect counties and schools to deal with wild fluctuations in their budgets.

Take, for example, Clearwater County in northern Idaho which has a population of about 10,300. In 1983, the Forest Reserve Funds from timber sales on the Clearwater National Forest supplied $655,931 toward schools, roads and bridges. The timber industy paid $576,615 in taxes to the county toward the support of schools, hospitals, roads, highways and other services. Combined, these two sources alone make up 42 percent of the total $2.87 million dollar county tax base.

For congressmen accustomed to thinking in terms of hundreds of millions and billions of dollars, these figures must seem a pittance. For the school administrator, the county commissioners, parents and taxpayers in our communities, they are not.

Whether reductions in timber harvest come from forest planning, from a policy to tie the timber sales program to lumber markets or are based on some timber sale economics rationale, the destabilizing effects will be felt in our communities, and they will hurt.

Voters already unemployed, temporarily employed or uncertain of the future cannot make up the difference left by reductions in forest funds. Nor can schools necessarily expect help from their states. State funding for schools is usually based on enrollment. Local schools experience enrollment drops on top of reduced federal payments as loggers and millworkers seek work elsewhere, and, thus, receive less rather than more state money.

We believe the Pacific Northwest has shouldered a disproportionate share of the recent national recession. Our industry and people have not only suffered through the direct effects of the recession itself, we have and are continuing to be asked to set aside our productive resource base. Through legislation, Congress has said, "The PNW is a beautiful area and some day in the dim and unrationed future we want to enjoy it, so you carry the burden. You set aside more and more of your ability to produce, even though we can't guarantee that the backpackers, the out-of-state hunters and tourists will come. We just want it put aside, just in case."

Decisions based on an incomplete assessment of the benefits from timber management or ignoring the full costs of giving up timber harvests amount to just another way to limit productive capacity.

Track Record of Response

The health of the forest resource industry is more vulnerable now to the effects of public policy than in the past. We believe the industry has a good track record as a partner with the people and government of this nation; it has responded and adapted to changes and needs. The industry initially went through what could be called a raw material phase. Raw material was seemingly unlimited and the industry's job was to convert enough raw material to supply the nations' growing needs. As we recognized resources as being finite, the industry responded by a phase of increasing productivity in the woods, in conversion and the use of residuals. Now we have entered a market phase in the evolution and maturity of the industry. No longer do we have the luxury of being only regional domestic competitors. We must analyze our markets, our transportation, our overall competitiveness in terms of worldwide unit costs for commodities. The Canadian imports situation is a good example. Our ability to compete and survive is more sensitive than ever to political decisions and government policy; every policy decision now assumes greater importance--whether it affects interest rates, exchange rates, logging costs or raw material supply.

Environment Versus Human Environment

What underlying values or ethics will guide these important policy decisions? We believe that humans should fit squarely in the picture. Ronald Inglehart, in The Silent Revolution writes:

> The course of wisdom is difficult. It requires both a warm heart and cold reason. Perhaps the whales are sacred and the trees are sacred and the land is sacred. But mankind is sacred too and unique in that he seeks salvation and uses tools. If he abandons either, he abandons humanity.

In the Inland West where the greatest criticism has been leveled at so-called uneconomic or below-cost Forest Service timber sales, we know of mills that have not turned a profit in three years or more, yet they continue to operate. The mill managers keep their doors open not just out of cold reason, although there are good business reasons to weather the bad times, but out of a real commitment to people and their communities.

We hope and ask that your evaluation of the issue of timber sale economics, suitable lands analysis and any possible legislative action you might consider, be guided by an ethic that couples human concerns with environmental concerns.

In writing about the role and values of the forest products industry Ron Arnold states such a human-inclusive ethic this way:

> I pledge to help produce, to wisely use, and to preserve the resources of my civilization, its food, fiber, minerals, energy, education, government, institutions, economic security and ideals, and where possible to protect its wildlife and natural beauty. I will respect the earth's ability to support civilization, striving to minimize pollution and destruction of the natural world. I will respect the technical processes that are essential to the operation of civilization, knowing that they are as interdependent as any ecosystem. I will strive to recognize the benefits and limitations of civilization in relieving human misery, and in opening opportunities for a life of security, fulfillment and the refinements of aesthetic appreciation for its citizens.[2/]

A future that deprives people of the responsibilities and the opportunities to find creative solutions to environmental

---

[2/] Used by permission of the author. The Environmental Battle, Free Enterprise Press, Bellevue, Washington, 1985 problems and be productive citizens is just as undesirable a legacy for our children as a future without wilderness.

Follow-up

Our testimony today has touched on only some of the issues and questions raised by the subcommittee, focusing on points of greatest concern to our members and their communities. Our individual state organizations will be considering in detail other points noted in the hearing charter, so that as a Federation we may provide you with a more complete response later this summer. Thank you again for inviting us to comment. Should you need information specific to any one of our six member states we hope you will call on us.

(Attachments follow:)

Federated Women in Timber

Billie Smith
Chairwoman
349 Walnut Drive
Monmouth, OR 97361
(503) 838-2560

A RESOLUTION REGARDING "BELOW COST" TIMBER SALES

ADOPTED UNANIMOUSLY MARCH 30, 1985, SEATTLE, WASHINGTON

"Below cost" timber sales are defined by critics as those sales which cost the United States Forest Service more to prepare and administer than they return in stumpage receipts.

The below cost formula does not take into account the value derived from timber sales.

A cost/benefit approach displaying timber management expenditures made in the interests of recreation, wildlife and fisheries management, watershed management, fire and insect control, timber stand improvement, hunting etc. would give a more accurate picture of the value of the timber sale program.

Another dimension of benefits derived from timber sales that has been too often overlooked is the positive economic chain of events initiated by the timber sale.

The Forest Service employees, road and logging crews, pulp and sawmill workers are all paid for their productive efforts and they all pay taxes.

Industry suppliers from equipment and insurance sales to banking services are all part of the action and they all pay taxes.

All these people spend their after tax dollars on food, clothing, shelter and other ammenities purchased from merchants who all pay taxes.

Each step of the way, the government is there to collect a little more on that initial investment.

Using the cost/benefit analysis on down the chain makes it obvious that National Forest timber sales are not the financial losers critics would like the public to believe.

The Federated Women in Timber recommends that the United States Forest Service improve their cost allocation system to better reflect the benefits of the administration of timber sales to other multiple use areas and future timber sales.

We further ask Congress to look upon the timber sale program in the light of a full cost/benefit perspective before recommending any policy changes for timber resource management.

Billie Smith

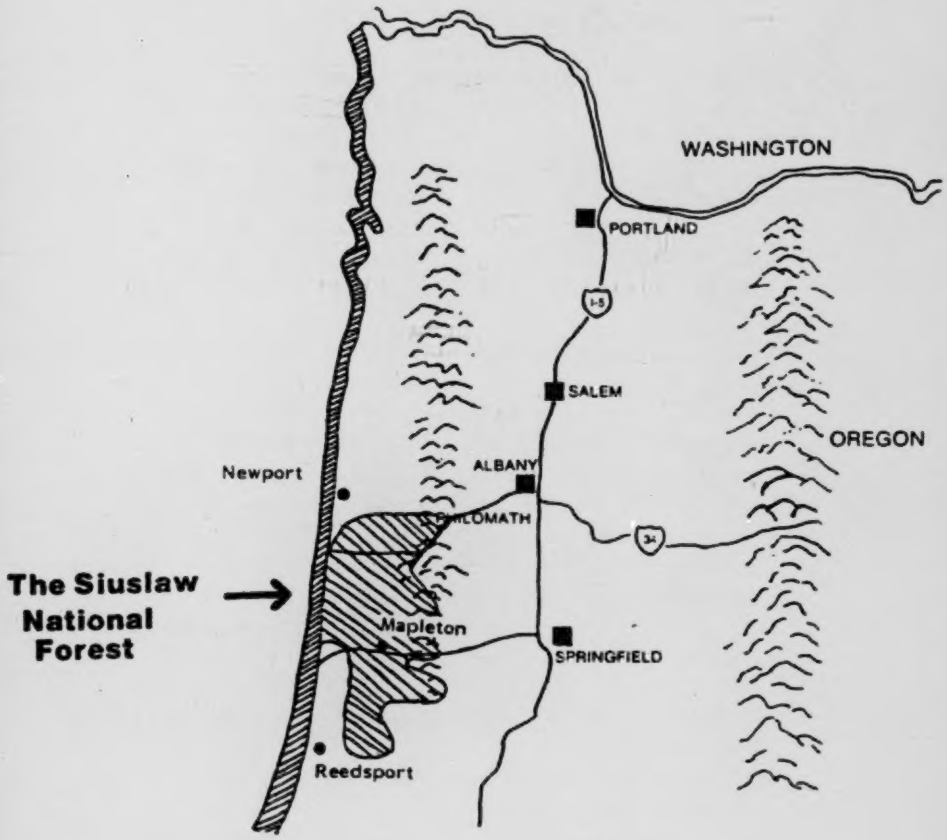
Billie Smith, Chairwoman
Federated Women in Timber

A Case Study in Forest Planning

The Siuslaw National Forest

Oregon
Women
for
Timber

May 1985


WASHINGTON
PORTLAND
I-5
SALEM
OREGON
Newport
ALBANY
PHILOMATH
34
The Siuslaw National Forest
Mapleton
SPRINGFIELD
Reedsport

THE SIUSLAW NATIONAL FOREST

The Siuslaw National Forest is located in the steep, productive Douglas fir forests of the Oregon Coast Range. Its 640,000 acres are the most productive in the national forest system, growing bountiful crops of trees, fish and other resources. The average annual rainfall of over 100 inches helps contribute to that productivity. The forest grew in the aftermath of the huge fires of the late 1800's. Thus, it is mostly second growth, 100-120 years old, and there is little old growth (250+ years).

In 1979, the Siuslaw completed its timber management plan under multiple use planning. The forest found it could harvest 569,000 acres or 91 percent of the total landbase. The maximum biological harvest level was calculated at 528.9 million board feet per year, with a potential yield level (what could actually be accomplished under multiple use with full funding) of 452.3 million board feet yearly (this was recently adjusted to 436.4 million board feet because of the 1984 Oregon Wilderness Act). This harvest level is compatible with all of the multiple uses and helped to spur a vigorous coastal timber and fishing economy. The actual sale level has been around the 400 million board feet level recently because of budget.

THE NATIONAL FOREST MANAGEMENT ACT (NFMA) PLANNING PROCESS

In 1976 Congress passed the National Forest Management Act to address legal problems the Forest Service was facing nationwide (the Monongahela controversy) and to further clarify congressional intent for the national forests' management. A major part of this legislation was to call for integrated resource management planning, assuring coordination of outdoor recreation, range, timber, watershed, wildlife and fish and wilderness.

Schedule

The planning process calls for an orderly series of steps. First, the forest is to complete an analysis of the management situation (AMS) which is an assessment of the forests' ability to supply goods and services in response to the changing needs of society.

The results of the AMS serve as a basis for formulating alternatives in the Draft Forest Plan (DFP) and Environmental Impact Statement (DEIS). After public comment on the DFP & DEIS, a final Forest Plan and EIS and record of decision will be issued. Barring any appeals or litigation, the Forest Plan will then go into effect.

The Siuslaw's AMS was issued in February 1985, with the Draft Plan and EIS scheduled for release in October 1985. A Final Forest Plan and EIS will then be issued in mid-1986.

RESULTS OF PLANNING TO DATE

The AMS foretells some very serious problems for the purchasers of Siuslaw National Forest timber, for employees of forest products companies and for timber-dependent communities in the Siuslaw area. It looks as though the harvest level will fall from near 400 million board feet per year to something around 318 million board feet without discretionary multiple use constraints (visuals, recreation, etc.).

Under the existing timber management plan, those discretionary constraints cost the Siuslaw about 76 million board feet annually. Thus, without departures, we are looking at a new harvest level in the high 200's, depending on which discretionary multiple use constraints are used and which are not.

What is the reason for this reduction? First, the new timber yield tables (estimates how fast timber grows) are down 8-10 percent from the existing timber management plan. Secondly, the land base has been reduced for protection of soil and water (some of this was done in the TM Plan). Third, the Siuslaw has set aside thousands of acres for wildlife indicator species.

All of these constraints are imposed early in the planning process, before alternatives are developed. These constraints, called Minimum Management Requirements (MMRs), remove 131,000 acres of suitable timberland from full management and cost about 100 million board feet in allowable harvest. Incredibly, the cost of these constraints is $585 million in terms of lost present net value, or about a quarter of the entire forest's value.

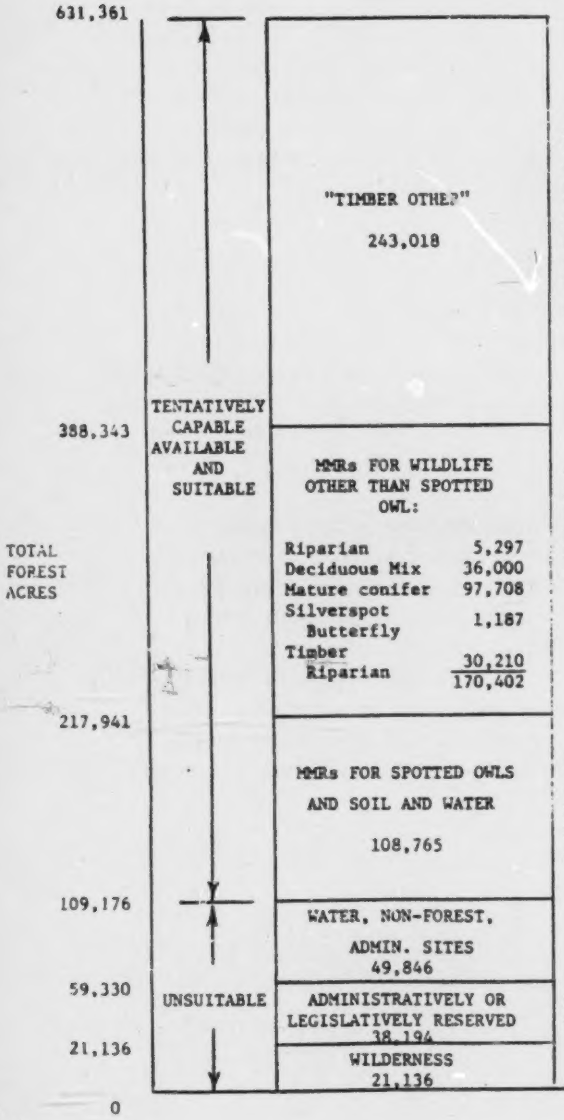
The public will not see any alternative which has any less allocations than these "minimums," only higher levels of protection. Out of a 630,000 acre forest, only 243,018 acres, or about 38 percent, is open for public comment and full multiple use (or full timber management). Some timber harvest can occur on the remaining two-thirds of the Forest but, it will be limited in scope.

The Siuslaw timber base will be affected by setting aside, or by modified management, on 40,000 acres for spotted owl; 96,000 acres for pine martins; 47,800 acres for the pileated woodpecker; among other species. All told, some 254,000 acres otherwise suitable for timber management will be affected by wildlife Minimum Management Requirements alone.

Impacts of Planning on Siuslaw Area Mills

The loss of at least 100 million board feet annually to the local timber economy would be devastating. That is the amount of timber needed to run 4 average sized plywood plants. No one will immediately volunteer to shut down 4 plywood plants. So the transition to the loss of these mills will have the immediate effect of escalating costs for timber in the Siuslaw area as companies fight to maintain their timber supply.

ACREAGE ALLOCATIONS FOR SUISLAW NATIONAL FOREST
BENCHMARK ANALYSIS INCLUDING MMRs



The remaining 243,018 acres is what is left for "multiple use planning". It is the maximum acreage that can be considered for "full intensive management" in any alternative. It defines the upper end of the possible range of alternatives. (I.E., This is what the public gets to consider for planning purposes.)

Although these MMRs will constrain each and every alternative, the prescriptions do allow some timber yield. The key point is that this acreage has been allocated prior to considering a range of alternatives.

Includes 100,273 acres of otherwise suitable land to protect soil and water and 40,000 acres for spotted owl. After overlap is considered, it totals 108,765.

National Recreation Area, Research Natural Area, Scenic Area, T & E Species

OREGON WILDERNESS ACT 1984

Impacts on Employment in the Siuslaw Area

In Benton, Lane, Lincoln and Tillamook Counties, the counties primarily served by the Siuslaw, employment in the forest products industry during 1982 was 14,108, with a total payroll of $297 million. Using formulas developed by OSU for calculating employment loss, we estimate the employment effect caused by the Siuslaw planning process at 800 lost jobs in the industry, with an additional employment loss in service and retail industries at over 2,000. Lane County already has an 11.4% unemployment rate (March figures).

Community Impacts

According to the Association of Oregon Counties, a 100 million board foot reduction in annual harvest would create an annual loss of $20 million, $5 million of which would be the counties' share. The loss to county road departments would be $3.75 million and to schools, $1.25 million. This is the equivalent of 43% of the road budget for Lane County; 57% for Lincoln.

Reductions in timber sale receipts will "have a direct impact on the quality of education in the Mapleton District," according to school superintendent James Kohl. He also observes that "students from families where the primary breadwinner is unemployed suffer psychologically and occasionally, physically. General attitudes of despair and desperation in the home are reflected in the classroom in terms of behavior problems and poor academic performance. Poor classroom performance can also be tied to poor nutrition that can result if there isn't adequate income to purchase proper food in the proper amounts."

Personal Impacts

Household income in the area of the Siuslaw will decline by about $17.4 million, as a result of the reduction in timber harvest, primarily centered in Lane County.

The impacts on the family of loss of income and unemployment are staggering. Dr. Lawrence Flanagan, a specialist in providing counseling to unemployed mill workers in Douglas County provides some glimpse of the future for mill workers deprived of their livelihood by the Siuslaw planning process: "During that same period (from July 1981 through January 1982), the Family Service Clinic staff saw 316 patients whose severe depression was either directly related to their unemployment or where unemployment was a significant factor in their depression. Of those 316 patients, 253 (approximately 80%) were suicidal. Many of the 316 patients mentioned above, besides exhibiting symptoms of depression also manifested symptoms of alcohol abuse which had begun occurring in flagrant fashion after they had become unemployed." Family disintegration is often a final outcome of the unemployment problem.

Mapleton Suit Impacts

As a result of the National Wildlife Federation's lawsuit on the Mapleton District, the industry has lost 100 million board feet in allowable sales for two years now. Because the firms had some unlogged contracts in inventory, they have operated up to this point (except Champion). However, this is changing and we are now beginning to see the effects of a reduced wood supply. Not only has competition increased stumpage prices, but the local communities are beginning to suffer as well.

REGION 6 IMPACTS

If planning continues on its present course, the allowable sale quantity in Region 6 could fall as much as one billion board feet, or 20 percent, according to forest industry associations. The Forest Service has made its own projections, indicating a 5 to 15 percent reduction. The primary impact is in Western Washington and Oregon, but it occurs in other areas as well. Strict adherences to the agencies own interpretation of NFMA will result in economic disaster.

Worse yet, the reduction in Oregon harvests will occur precisely in the timbersheds where the State Board of Forestry has identified age class imbalances on private land and has called for an increase in harvest in public lands to compensate. The exact opposite will happen if the Forest Service pursues its present course. But it doesn't have to happen. The Forest Service only harvests about 1 percent of its inventory annually, far below the private forest rate of 5 to 6 percent and still below the state lands level of 3 to 4 percent. A doubling of national forest harvest to 2 percent could occur without damaging any of the other multiple use outputs, etc.

RECOMMENDATIONS

In March the Secretary of Agriculture (MacCleery decision) remanded the umbrella planning document, the Regional Guide, for correction as a result of an environmental appeal. The Secretary agreed with both the environmentalist and industry that not enough was known about the spotted owl so that a better Environmental Impact Statement was needed. This will be done. However, contrary to the Forest Service interpretation, all Minimum Management Requirements and wildlife species should be addressed in the EIS because of the uncertainty surrounding the species requirements. Dropping the harvest level 700 million board feet for some unknown and questionable wildlife habitat requirements without an EIS evaluation all of the social and economic impacts is unacceptable.

Secondly, there should be a pause in planning to finish the remanded Regional Guide. If the Forests go ahead and finish planning while the umbrella Regional EIS is being revised, the Forests' plans will have to be revised when the Guide is finished or NEPA will be violated.

Therefore, it is imperative that the Forest Service re-evaluate all of its planning decisions and assure that the harvest level will not drop in Region 6.

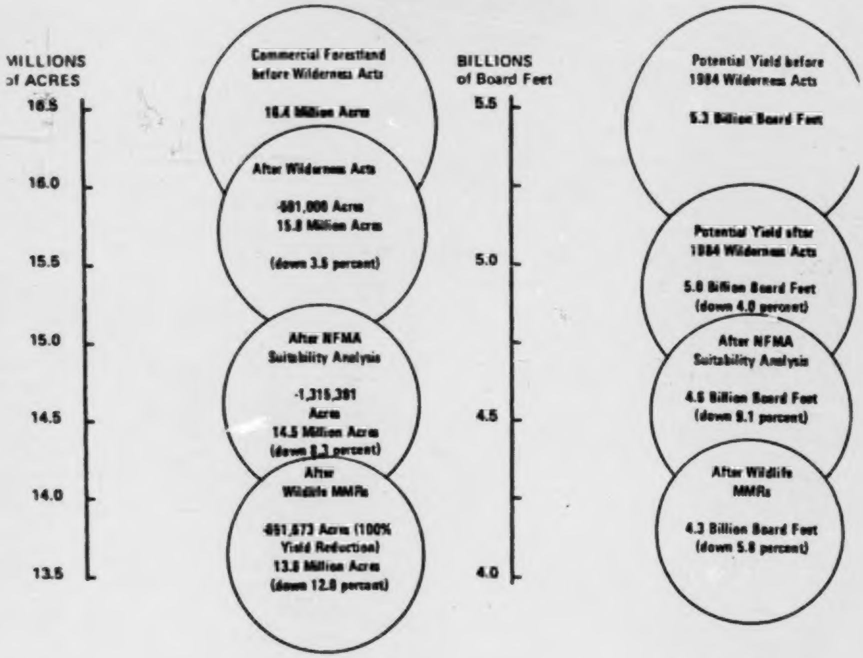
Thirdly, the Forest Service must strive to minimize the effect of planning on allowable harvests. Untold and excessive suffering will occur in our small mill towns.

The Forest Service's discretionary interpretations of NFMA and the regulations must be corrected by Congress.

THE SHRINKING PIE

Loss of Commercial Forestland and Potential Yield

Region 6 – USFS



Net Reduction	***Net Reduction***
11.6%	***17.7%***

Exhibit A - Federated Women in Timber
Examples of Non-Timber Benefits
From Timber Sale Activities

1. The Clearwater National Forest Fiscal Year 1984 Highlights. In this report published February 1985 the Clearwater Forest, located in northern Idaho, summarizes the year's activities on the forest. In the section on "Fisheries Habitat Management" the report states: "In the North Fork of the Clearwater River 25 acres of kokanee salmon and cutthroat trout habitat were improved with the installation of 77 structures and the removal of eight mitigation barriers. The latter project was financed entirely with funds from a timber sale in the adjacent area" (emphasis added).

2. The Clearwater NF Proposed Plan, printed in May of this year, calls for an annual harvest of 34.4 million board feet of timber per year (mostly by clearcutting) in elk management areas during the first decade of the plan in order to provide for "early establishment of temporary elk forage (browse) acres".

3. Varnum Timber Sale on the Idaho Panhandle National Forest. In the environmental assessment which formed the basis for the supervisor's decision to sell timber (sold in 1983) from this area, a harvesting alternative was chosen over alternative A (no harvesting) for the following reasons:

   "A KV wildlife project for gathering specific habitat needs for the roosting birds (bald eagles) has been proposed. This project would be foregone under Alternative A."

   It was also noted that Alternative A "would not contribute to improving stand conditions". In this case there was "a wide spread infection of dwarf mistletoe in the Douglas-fir and larch."

4. Dixie Summit Road Project. On a new road project on the Nezperce National Forest in northern Idaho, a metal gate had to be erected in the fall of 1984 because hunters and recreationists were trying to use the road before it was completed and prior to any timber removal other than right-of-way. Logging contractors and timber purchasers find this to be a common experience when building roads into undeveloped areas.

5. During a recent discussion of timber sales on the Clearwater Forest, the Forest Service representative proposed a helicopter harvesting operation in the South Canyon Face area to remove dead white pine (killed by blister rust) in order for elk to travel more easily through the area.

EXHIBIT B

Why join the Idaho Hunters Association

The Idaho Hunters Association is Incorporated under the laws of the State of Idaho to represent hunter and wildlife interests in matters before the State Fish and Game Commission, the Idaho Legislature, and the public-at-large.

The Idaho Hunters Association, Inc., is a positive action group that will work for the Idaho hunter and optimum wildlife numbers.

The IHA is a political action committee that will act as a monitor of the Idaho Department of Fish and Game and other governmental agencies. We will also fight anti-hunting groups and other extreme preservationists in the public and political arena.

The IHA is committed to the highest principals of sportsmanship in the field as well as the enhancement of the wildlife resource.

The IHA decisions and recommendations will give first consideration to big game, game birds and other game.

The IHA will be a grassroots organization and chapters will be organized in all areas of the state.

The IHA joins sister associations that are already organized in Oregon, Nevada, and Utah.

Why another sportsman's organization?

Many older and some new sportsmens organizations have been taken over and neutralized by preservationists who are in many cases actually anti-hunting.

The IHA believes that some game populations are at unfortunately low numbers especially mule deer, chukars, and other upland game birds. It is our position that the present policies of the Fish and Game Department will not improve the populations of these species.

The IHA believes that revenue enhancement and non-game species management are being over emphasized by the present Fish and Game Department to the detriment of game species. Idaho law clearly charges the Fish and Game Department with managing game species to obtain optimum numbers.

The IHA believes that excessive predation, biological mismanagement, and overhunting as well as habitat degradation are responsible for the downward trend in game populations. We disagree with the Fish and Game Department estimates of present game populations.

The IHA will present scientific and other evidence to support its positions. The first issue of the IDAHO HUNTER is a case in point.

The IHA will develop a policy concerning land use and hunter access, road closures, game management in wilderness area, and other land related issues.

The IHA needs you. If you are interested in the wildlife resource and the future of hunting, let us know about it.

We need articles, letters to the editor, and wildlife pictures. We are especially interested in habitat improvement projects initiated by sportsmen.

Interested in forming a chapter in your area? Let us know and we will help.

The degree of interest and response will determine the date and place of our first annual general membership meeting.

If you are not yet ready to join, please write to us anyway.

Indicate your areas of concern or interest:

- ★ Road Closures
- ★ More or Less Wilderness
- ★ Predators
- ★ Out of State Hunters
- ★ Wolf Recovery Areas
- ★ Grizzly Bear Critical Habitat
- ★ Length of Seasons
- ★ Bow and Blackpowder Seasons
- ★ Endangered Plant and Rodent Area Closures
- ★ Other______________________

Additional copies of the IDAHO HUNTER are available. Limit 2 copies per address. Please include 50¢ postage.

Annual Memebership $10.00
Patron $100.00

Idaho Hunter Association, Inc.
P.O. Box 7431
Boise, Idaho 83707

IDAHO'S FUTURE???

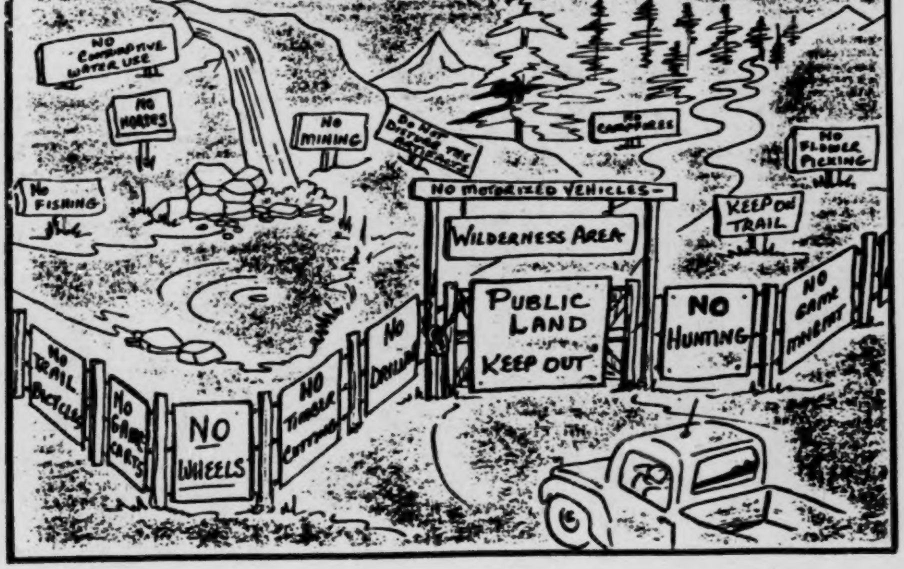
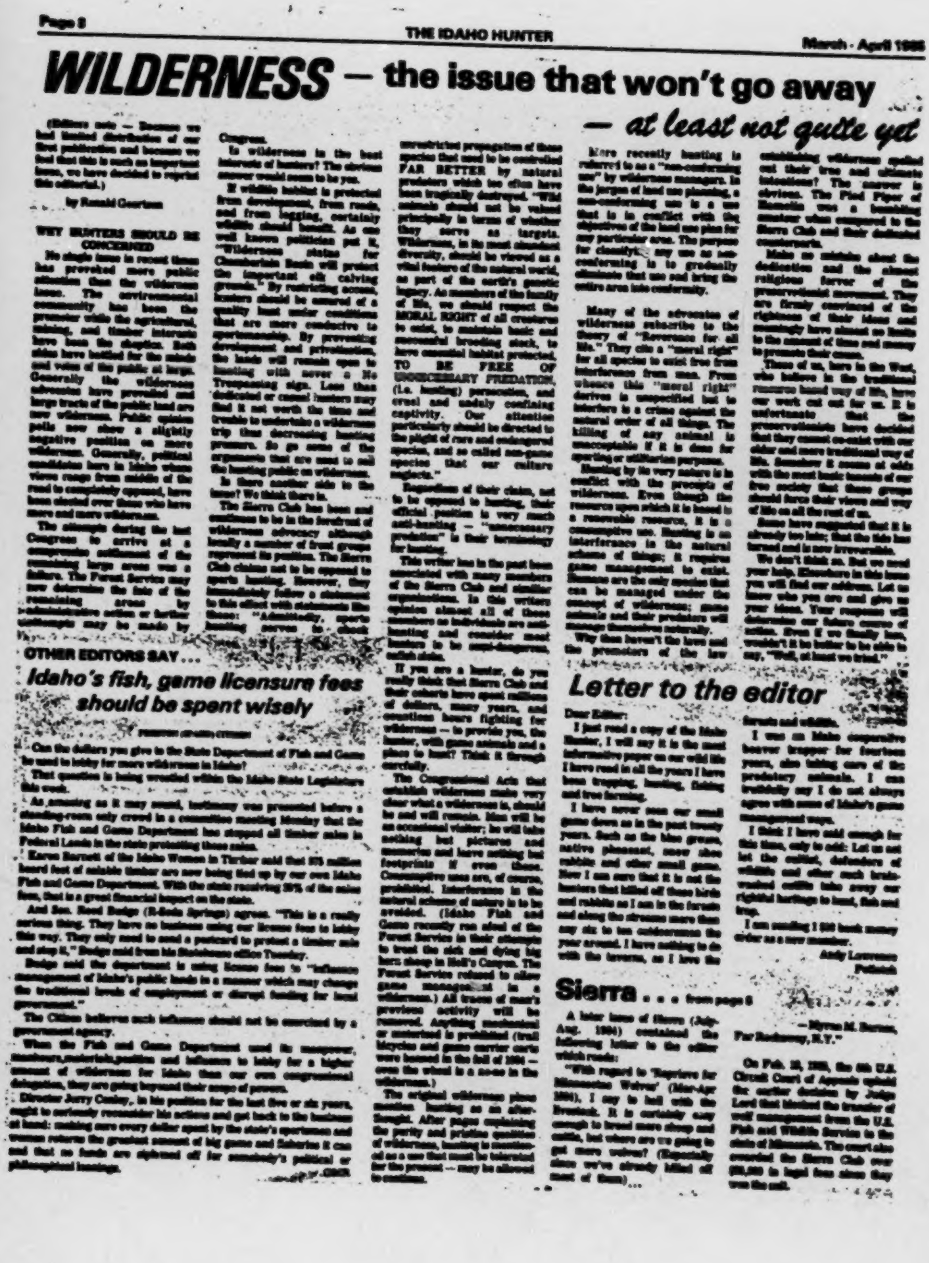


EXHIBIT C



Page 8 THE IDAHO HUNTER March - April 1985

WILDERNESS — the issue that won't go away — *at least not quite yet*

(Editors note — Because we had limited distribution of our first publication and because we feel that this is such an important issue, we have decided to reprint this editorial.)

by Ronald Goertzen

WHY HUNTERS SHOULD BE CONCERNED

No single issue in recent times has provoked more public attention than the wilderness issue. The environmental community has been the promoter while the agricultural, mining, and timber interests have been the skeptics. Both sides have battled for the minds and votes of the public at large. Generally the wilderness advocates have prevailed and large tracts of the public land are now wilderness. Public opinion polls now show a slightly negative position on more wilderness. Generally, political candidates here in Idaho whose views range from middle of the road to completely opposed, have been elected over those who have more and more wilderness.

The attempts during the last Congress to arrive at a compromise settlement of the remaining large areas was a failure. The Forest Service may now determine the fate of the remaining areas by administrative action or further attempts may be made by Congress.

Is wilderness in the best interests of hunters? The obvious answer would seem to be yes.

If wildlife habitat is protected from development, from roads, and from logging, certainly wildlife should benefit. As one well known politician put it, "Wilderness status for Chamberlain Basin will protect the important elk calving grounds." By restricting access, hunters should be assured of a quality hunt under conditions that are more conducive to sportsmanship. By preventing development and privatization, the lands will remain open to hunting with never a No Trespassing sign. Less than dedicated or casual hunters may find it not worth the time and trouble to undertake a wilderness trip thus decreasing hunting pressure. So go some of the arguments that are used to sell the hunting public on wilderness.

Is there another side to the issue? We think there is.

The Sierra Club has been and continues to be in the forefront of wilderness advocacy although locally a number of front groups represent its position. The Sierra Club claims not to be opposed to sports hunting. However, they immediately follow a statement to this effect with statements like these: "Admittedly, sports hunting serves to check [illegible] unrestricted propagation of those species that used to be controlled FAR BETTER by natural predators which too often have been tragically destroyed. "Wild animals should not be valued principally in terms of whether they serve as targets. Wilderness, in its most abundant diversity, should be viewed as a vital feature of the natural world, as part of the earth's genetic legacy. As members of the family of life, we should respect the MORAL RIGHT of all creatures to exist, to maintain basic and successful breeding stock, to have essential habitat protected, TO BE FREE OF UNNECESSARY PREDATION, (i.e. hunting) persecution, and cruel and unduly confining captivity. Our attention particularly should be directed to the plight of rare and endangered species, and so called non-game species that our culture neglects."

Regardless of their claim, not to be opposed to hunting, their official position is very much anti-hunting — "unnecessary predation" is their terminology for hunting.

This writer has in the past been associated with many members of the Sierra Club and similar organizations. In this writer's opinion almost all of these members as individuals are anti-hunting and consider most hunters to be semi-dangerous, selfish slobs.

If you are a hunter, do you really think that Sierra Club and their cohorts have spent millions of dollars, many years, and countless hours fighting for wilderness — to provide you, the hunter, with game animals and a place to hunt? Think it through carefully.

The Congressional Acts that establish wilderness make very clear what a wilderness is, should be and will remain. Man will be an occasional visitor; he will take nothing but pictures and memories and leave nothing but footprints if even those. Consumptive uses are, of course, prohibited. Interference in the natural scheme of nature is to be avoided. (Idaho Fish and Game recently ran afoul of the Forest Service in their attempts to treat the sick and dying big horn sheep in Hell's Canyon. The Forest Service refused to allow game management in a wilderness.) All traces of man's previous activity will be removed. Anything mechanical or motorized is prohibited (trail bicycles and game carrier carts were banned in the fall of 1984 — even the wheel is a no-no in the wilderness.)

The original wilderness plans mention hunting as an after-thought. After pages explaining the purity and pristine qualities of wilderness, hunting is mentioned as a use that must be tolerated for the present — may be allowed to continue.

More recently hunting is referred to as a "non-conforming use" by wilderness managers. In the jargon of land use planning, a non-conforming use is a use that is in conflict with the objectives of the land use plan for any particular area. The purpose for classifying any use as non-conforming is to gradually eliminate that use and bring the entire area into conformity.

Many of the advocates of wilderness subscribe to the theory of "Reverence for all life." They cite a "moral right" for all species to exist free from interference from man. From whence this "moral right" derives is unspecified but to interfere is a crime against the natural order of all things. The killing of any animal is unacceptable if it is done for sporting or utilitarian purposes.

Hunting by its very nature is in conflict with the precepts of wilderness. Even though the resource upon which it is based is a renewable resource, it is a consumptive use. Hunting is an interference in the natural scheme of things; it requires game management to exist. Humans are the only species that can be managed under the concept of wilderness; game animals and their predators will manage themselves naturally.

Why then haven't the laws and the promoters of the law establishing wilderness spelled out their true and ultimate intentions? The answer is obvious. The Pied Piper of Hamelin was a bumbling amateur when compared to the Sierra Club and their dedicated counterparts.

Make no mistake about the dedication and the almost religious fervor of the preservationist movement. They are firmly convinced of the rightness of their ideas and seemingly have almost no limits to the amount of time and money to promote their cause.

Those of us, here in the West, who believe in the traditional resource based way of life, have our work cut out for us. It is unfortunate that the preservationists have decided that they cannot co-exist with our older and more traditional way of life. Somehow it seems at odds with the most basic tenets of our free society that these groups should force their views and way of life on all the rest of us.

Some have suggested that it is already too late; that the tide has turned and is now irreversible.

We don't think so. But we need your help. Elsewhere in this issue you will find our address. Let us know who you are and give us your ideas. Your response will determine our future course of action. Even if we finally lose, wouldn't it be better to be able to say, "Well, at least we tried."

OTHER EDITORS SAY ...

Idaho's fish, game licensure fees should be spent wisely

[illegible]

Can the dollars you give to the State Department of Fish and Game be used to lobby for more wilderness in Idaho?

That question is being wrestled within the Idaho State Legislature this week.

As amazing as it may sound, testimony was presented before a standing-room only crowd in a committee meeting Monday that the Idaho Fish and Game Department has stopped all timber sales in Federal Lands in the state protesting those sales.

Karen Barrett of the Idaho Women in Timber said that [illegible] million board feet of salable timber are now being tied up by our own Idaho Fish and Game Department. With the state receiving 25% of the sales fees, that is a great financial impact on the state.

And Sen. Reed Budge (R-Soda Springs) agrees. "This is a really serious thing. They have no business using our license fees to lobby this way. They only need to send a postcard to protest a timber sale and stop it," Budge said from his Statehouse office Tuesday.

Budge said the department is using license fees to "influence management of Idaho's public lands in a manner which may change the traditional levels of employment or disrupt funding for local government."

The Citizen believes such influence should not be exercised by a government agency.

When the Fish and Game Department used its manpower, dollars, materials, position and influence to lobby for a higher amount of wilderness for Idaho than our own congressional delegation, they are going beyond their scope of powers.

Director Jerry Conley, in his position for the last five or six years, ought to seriously reconsider his actions and get back to the business at hand: making sure every dollar spent by the state's sportsmen and women returns the greatest amount of big game and fisheries it can and that no funds are siphoned off for somebody's political or philosophical leanings.

—[illegible]

Letter to the editor

Dear Editor:

I just read a copy of the Idaho Hunter. I will say it is the most informative paper on our wild life I have read in all the years I have been trapping, hunting, fishing and tree farming.

I have never seen our small game down as in the past twenty years. Such as the blue grouse, native pheasant, snow shoe rabbits and other small game. Now I am sure that it is not the hunters that killed off those birds and rabbits as I am in the forests and along the streams more than any six to ten [illegible] the year around. I have nothing to do with the taverns, as I love the forests and wildlife.

I was an Idaho cooperative beaver trapper for fourteen years, also taking care of the predatory animals. I can truthfully say I do not always agree with some of Idaho's game management ways.

I think I have said enough for this time, only to add: Let us not let the cultist, defenders of wildlife and other such brain-washed outfits take away our rightful heritage to hunt, fish and trap.

I am sending 1 $10 bank money order as a new member.

Andy [illegible]
Potlatch

Sierra . . . from page 6

A later issue of Sierra (July-Aug. 1984) contained the following letter to the editor which reads:

"With regard to 'Reprieve for Minnesota Wolves' (Mar-Apr 1984), I say to hell with the livestock. It is certainly easy enough to breed more sheep and cattle, but where are we going to get more wolves? (Especially since we've already killed off most of them)...

—Myron M. [illegible], Far Rockaway, N.Y."

On Feb. [illegible], 1985, the 8th U.S. Circuit Court of Appeals upheld the earlier decision by Judge Lord that blocked the transfer of wolf management from the U.S. Fish and Wildlife Service to the state of Minnesota. The court also awarded the Sierra Club over [illegible] in legal fees since they won the suit.

Lost Innocence

Eugene, Ore., May Be A Great Place to Live, But Not Without a Job

City Once Hostile to Growth Learns Economic Lesson, Actively Seeks Industry

What Can Replace Timber?

By Mike Tharp
Staff Reporter of The Wall Street Journal

EUGENE, Ore.—Ten years ago, the Midwest Research Institute of Kansas City, Mo., named this Oregon town the No. 1 medium-sized city in America as a place to live. Other surveys over the next few years also rated Eugene as among the most livable places in the nation.

Then, earlier this year, Rand McNally & Co.'s "Places Rated Almanac" ranked Eugene dead last among 329 U.S. cities in its economy category. The ratings covered the period from January 1978 to December 1982 and included such criteria as job growth and average household income.

What happened to Eugene has happened to other cities as well. Despite a general resurgence over the past four years that saw domestic economic growth of nearly 3% annually, prosperity has bypassed many parts of America. "It has been a very unbalanced recovery, with a double whammy," says Isabel Sawhill, an economist at the Urban Institute in Washington, D.C. "A poor local economy means a growing need for services, but (these communities) don't have the fiscal wherewithal to deal with it if the local tax-base isn't growing."

Eugene's fall from grace also shows the increasing susceptibility of the U.S. economy in general and states such as Oregon in particular to global economic forces. Just a few years ago, the Eugenes of America seemed insulated from currency fluctuations, tariff schedules and international trade balances.

Just a Pawn?

Now, as Scott Lieuallen of the Eugene-Springfield Convention and Visitors Bureau observes, "Our future is being constructed in Zurich and London and New York and Riyadh and Tokyo."

Eugene is in Lane County in the Willamette Valley, 50 miles from the Pacific Coast and 100 miles south of Portland. With its fir-lined streets and surrounding misty hills, the self-styled "Emerald City" became nationally known in the 1970s as the running capital of America. Eugene had great appeal to newcomers.

A longtime resident recalls heady times in the housing market of the mid-70s. "A house would be multiple-listed (to several real-estate agents) at noon and would be sold by 3 p.m.," he says. The vacancy rate was 2%.

The city, like Oregon generally, seemed indifferent to new business. One Fortune 500 company once sought site information from the Oregon Economic Development Department and received a standardized form requesting $20 before the data could be sent. ("Now that China is encouraging business enterprise, maybe Oregon won't be far behind," said a timber-industry official recently.)

Remembered Good Times

In some ways, Eugene could afford to be laid-back. In the late 1970s, four of five jobs in Lane County, which is the size of Connecticut and has a population of 200,000, were related to the wood-products industry. Unemployment in 1978, as the industry was reaching its peak, was only 5.8% in Eugene. The city treasury was swollen with federal funds—$20 million from the Bureau of Land Management, $15 million from the Forest Service, $10 million from other Washington programs. "The money just came in such huge amounts," says Jerry Rust, currently a county commissioner.

Then, in 1980, the bubble burst, punctured by 20% interest rates. Dependent as it was on a single industry, Eugene faced the same sort of fate that befell Detroit with cars, Pittsburgh with steel, Akron with rubber. Housing starts dwindled nationally, and demand slumped for the wood used to build them. Men who had made $18 an hour in the nearby forests and mills suddenly were out of work, and unemployment in Lane County jumped to 15% in 1982.

Eugene entered a deep recession. "There wasn't much effort to diversify back then," says Jon Anderson, the publisher of Random Lengths, a wood-products trade publication. "Oregon and Eugene got complacent."

Many people here have now learned some hard lessons in international economics and domestic-spending priorities. They learned, for instance, that the federal deficit creates a need for dollar-denominated credit, bidding up the value of the dollar against Canadian and other currencies. As a result, certain imported wood products become cheaper than those produced in Oregon.

Bad Economic News

The flow of federal revenue-sharing funds also dried up. In its 1979-80 fiscal year, Lane County employed 1,800 people and had $34 million in discretionary revenue. Currently, there are 900 employees and a discretionary budget of just under $22 million and that is likely to be slashed further because of federal budget cutting.

Some residents argue that Eugene's plight has been aggravated by national defense spending—too much of it elsewhere and not enough locally. Employment Research Associates, a Lansing, Mich., economic consulting firm, estimates that in 1983-84, Department of Defense spending contributed just $85.7 million to the congressional district in which Eugene is located, while $456.5 million in taxes left the district bound for the Pentagon. "The forest-products industry suffers a net loss of jobs when military spending is high," says Marion Anderson, the firm's director.

Although the Eugene area hasn't benefited from defense outlays as much as places with large military installations have, it did enjoy federal largess. The Forest Service and the Bureau of Land Management, for instance, share timber-sale revenues with local governments. However, the decline in demand for forest products has meant much less money from such sales.

As a result, program cutbacks in Eugene have been deep and wide. Eugene's health and social services department lost its main source of financing for preventive-medicine programs. A medical program for older people, grants for mental health, and the monitoring of day-care centers are among programs begun in 1979 that have now been abandoned or curtailed. "How do you sell economic development if you don't sell public health preventive services?" asks John Kottenbauer, the department's director.

Eugene and its environs have paid other social costs of tough economic times. R.H. Peterson, the police chief in Oakridge, southeast of Eugene, says that property crime has risen 40% in the past 18 months and that wife- and child-abuse have also increased. "The shrinks tell us that's because the old man's not working and starts to resent mom and the kids," says Mr. Peterson. The county employs only 34 sheriff's deputies, down from 76 five years ago.

The University of Oregon, which has 14,000 students and which is Eugene's largest employer, has lost a quarter of its state budget since 1981 and has lost 80 faculty positions. "There have been very few raises in the past five years," says Richard Hersh, the vice president for research.

With little or no relief expected from Washington and with poor prospects for a comeback in the forest-products business, Eugene is trying to bring about its own recovery. The area's erstwhile "growth-vs.-no-growth" debate has given way to a community consensus: Eugene must attract corporate investment—jobs—if it is to flourish.

"The national and international situation impacts our basic industry," says Mayor Brian Obie, who ran for office on a platform of economic diversification. "But economic crisis is our greatest opportunity."

Eugene and Springfield have budgeted $750,000 to recruit industry to the area. A town-and-gown coalition hopes to develop a 70-acre Willamette riverfront site into a research-oriented commercial park. Oregon Venture Capital Corp., a new privately held business, has $2 million set aside to finance high-tech or other limited partnerships. An ambitious multi-year plan to expand the Eugene airport is in the works.

Efforts have yielded some success. Spectra-Physics Inc., a San Jose, Calif., maker of lasers and scientific equipment, nearly doubled the number of workers at its Eugene facility in the past year, to about 600. (Employee turnover at the plant is the lowest of any Spectra-Physics operation.) In March, voters approved a ballot measure to widen and rebuild two streets, a move that required cutting down several venerated maple trees. That same month, Moody's Investors Service reiterated its double-A rating for Eugene's municipal bonds.

However, Eugene's economic outlook remains clouded. For one thing, the community hasn't yet found anything to replace wood products as a generator of jobs.

The city was criticized by Thomas Meanday, the president of Avant-Garde Publishing Corp., when he moved the software business to Novato, Calif., from Eugene earlier this year. He said Eugene is unsophisticated in financing high-tech ventures.

Serious questions remain about whether townspeople are willing to sacrifice some of the things that brought them to Eugene in the first place, and that keep them here. "Everybody here values quality of life over any other factor," says James E. Reinmuth, the dean of the College of Business Administration at the University of Oregon.

Adds Ronald E. Young, a senior vice president of First Interstate Bank of Oregon, "This is still a good place to live—if you can make a living."

WALL STREET JOURNAL
JUNE 3, 1985

FEDERATED WOMEN IN TIMBER

JOHN A. DAVENPORT
INDEPENDENT CONSULTANT
TIMBER & FORESTRY

3230 N. E. U. S. GRANT PLACE
PORTLAND, OREGON 97212
TELEPHONE 503 - 281-3667

JOHN A. DAVENPORT

June 4, 1985

INDEPENDENT FORESTRY CONSULTANT
STATEMENT

Good morning Mr. Chairman and all members present. My name is John A. Davenport. I am an independent forestry consultant specializing in public timber problems. I commend the subcommittee for holding these hearings on so-called "below-cost" timber sales. The record developed so far shows that the issue of "below-cost" timber sales dodges the real problem, namely, should the National Forests be managed at all and, if so, how should it be done?

By 1907 when most of the Western National Forests were designated, great concern arose in the West that these lands would become permanent preserves which would ultimately have devastating economic effects on the whole Region. On May 2, 1907 James Wilson, Secretary of Agriculture approved a phamplet "The Use of the National Forests" (eventually called "The Use Book"). In an attempt to allay the fears of the Westerners, the book in the strongest terms spelled out in great detail how and why the forests were to be used. It was essentially the first Forest Service Manual. The premise was quite simple: Place the public land under scientific management; promote the public welfare by using the land and by planning for long term benefits. I will provide a copy of"The Use Book" for your staff.

If the subcommittee wishes to delve into the subject more deeply there is a book titled -

Bernhard Eduard Fernow
A Story of North American Forestry
By Andrew Denny Rodgers III
Princeton, New Jersey
Princeton University Press
1951

Dr. Fernow was Chief of the Division of Forestry in the Department of Agriculture from 1886 to 1898. He more than anyone else was responsible for legislation setting up the National Forest System. He formed the first Forestry School at Cornell University as director from 1898 to 1903. From 1907 until 1919 he was Dean of the faculty of Forestry at the University of Toronto. He had tremendous influence. He argued for use, to maximize timber production and future growth for future generations. Conservation through wise use was the essence of his appeal.

These hearings focus on whether there is a need to provide a profit in the short run. If profit is a requirement, the whole purpose of the National Forest system is blunted. The management system must, as described by Dr. Fernow, consider the long term needs in order to promote the public welfare.

Somehow we've gotten away from the objective and turned our attention to the subjective, as described by Chief Peterson on page 10 of his testimony. Management of public lands by emotion is impossible.

I make the following recommendations:

1. Manage public lands for long term benefits. Use the land in order to prepare for the future.

2. Create a system which promotes stability in the industry.

3. Do away with the Purchaser Credit system of building roads. Congress should establish a permanent road trust fund financed from timber receipts and pay the builder of permanent roads, be it the timber contract holder or a contractor. This would eliminate most below-cost" sales.

JOHN A. DAVENPORT
INDEPENDENT CONSULTANT
TIMBER & FORESTRY

3230 N. E. U. S. GRANT PLACE
PORTLAND, OREGON 97212
TELEPHONE 503 - 281-3067

June 11, 1985

SUPPLEMENTAL REMARKS
OF
JOHN A. DAVENPORT
INDEPENDENT FORESTRY CONSULTANT
PORTLAND, OREGON
to
THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, AND ENERGY
COMMITTEE ON AGRICULTURE
UNITED STATES HOUSE OF REPRESENTATIVES
JUNE 6, 1985

Chairman Whitely and members of the subcommittee. These additional remarks expand and clarify my statement and testimony in response to other statements and testimony at the hearing.

I repeat that no issues have been raised in the record which warrant new legislation in regard to "below-cost" timber sales.

My professional background is as follows: I graduated from Yale College in 1950 with a B.S. Degree in Plant Science, and obtained a Master of Forestry Degree in Silviculture from the Yale School of Forestry in 1955. Since then I have been continuously involved in federal timber harvesting activities throughout the United States, with primary emphasis on the West Coast.

The real issue before the subcommittee is whether or not to manage the National Forests. If the decision is to manage the vegetation, you are dealing with a long term commitment, often over a hundred years in regions of slow growth. Thus, the purpose of using the forest now is to create a better one a hundred years from now.

To tie the management plan to "above-cost" sales simply won't work. There has to be a continuous plan, not one that stops and goes. If forest management is constrained by poor market conditions, the long range plan will not work. Industry will not invest in plants and equipment to do sporadic jobs. Untrained people not familiar with the realities of silviculture simply ignore these facts. Public timberlands should be managed for long term benefits, not for quick profits.

Historically (prior to 1950) most Forest Service sales were "below-cost" sales. The problem the government had in those days was to find users. The Black Hills National Forest in South Dakota and Wyoming provides one of the best examples. Users were available to provide the managers with the tool needed for management - timber harvesting. Today the Black Hills is a model example of what use can accomplish.

Several years ago the Regional Forester in Denver, Colorado (Region II) announced that the Forest Service wanted to manage vegetation in Western Colorado. They estimated they could sell 50 million board feet of aspen and 25 million board feet of spruce annually. Based partially on that announcement, a waferboard plant and a sawmill were built. The investment equaled about 15 million dollars. The plants are operating today on non-federal timber and employ over two hundred people. Yet now no federal timber is being cut because of environmental opposition to vegetative management.

If operators are willing to pay some minimum value and operate the sales, the government is ahead. It gains revenue as well as a method to manage the land. If government selling costs exceed this minimum payment, that is not the operator's fault - it is the government's fault. As Congressman Marlenee pointed out in the hearing, perhaps it's our (Congress') fault because we passed all these laws that the agencies have to obey. He hit the nail on the head.

In the past thirty years the professional staff, support, and clerical staffs of the Forest Service have increased at least by five times in almost every ranger district. This is a response to new laws pushed by the environmental movement. To come back now and say that the sale of timber is not profitable and therefore should be halted is duplicitous at best.

John A. Davenport

Summary, Testimony Before SubCom. on Forests, Family Farms & Energy
on "Economics of Federal Timber Sales" June 6, 1985
By Robert E. Wolf, Forester, St. Leonard, Md.

Mr. Chairman and members of the Subcommittee, I have an extensive statement which was supplied several days ago, as requested. I shall summarize it, make a few observations and be available to answer questions, now or later.

The economics of timber is older than forestry. The question - what will it cost us to produce a good or service is a basic question every business asks when a venture - and keeps asking if it is to remain in the market. Forestry is a business.

My paper discusses how, as a Cong Res. Service employee, I responded on Mar. 7, 1984 to the Com. on Appropriations request that I use Forest Service data to answer questions it had not answered.

It discusses criticisms of this work by Forest Service & the Nat. For. Prod. Assn. It cites NFPA testimony in 1960 on the Multiple-Use Act when they wanted direction in law that the National Forests be made "financially self-supporting". It cites the Act which says it is not necessary for the Forests to give "..the greatest dollar return..." This term suggests measures of traditional profits and losses and certainly does imply that a "return" is anticipated.

My paper cites the same concept as outlined by Henry Graves, Chief, FS, in 1914, including a method of Forest-by-Forest accountability.

The Subcommittee asked 9 detailed, multi-part questions. My paper seeks to answer these in as much depth as possible. My paper is prefaced by a discussion of Forest Service data and its shortcomings. I do believe that there is considerable data available at the Forest level, regions and W.O. Rather than designing new systems, I would urge that the many types of information gathered be examined. A lot may exist.It may need to be organized so it can be used. Also some may not be useful. This may assist in keeping down costs to develop a system.

I believe that cost accounting, properly used can be a friend to multiple-use resource management. It is not the only tool but it is an important starting point. One needs to know "costs of production", one need to know "revenue", one needs to know "cash-flow". Revenue must exceed costs to have capital formation for investment in the "forest factory". With these sort of things known, the difficult area of cost & benefit apportionment and and non-cash benefits and costs can be more effectively addressed. Using up one's timber assets to sell timber is not cost effective. Using Federal appropriations to subsidize timber or other benefits, needs to be weighed on a public interest scale where it is measured against other requests that those sponsors contend also are worthy.

The highly respected Chief of the Appropriations Surveys and Investigations Staff, C.R. Anderson filed a report April 15th on Timber and Roads. After careful review, he recommended that the Forest Service provide for each Forest data on costs and revenues. He prefaced this by stating he does not accept the proposition that the Forest Service cannot construct a profit and loss statement. And he also observed that The Forest Service refused to provide data in a manner that would permit Congress to examine the issue. I support Mr. Anderson's recommendations.

On March 21, 1985 a FS team reported to the Chief on the Black Hills NF, S.Dak. This is a commendable report despite some serious shortcomings because it represents an internal effort to examine the issue of timber sale costs. Some important Forest Service observations are:

1. FORPLAN never explicitly calculated timber harvest cash flow (p 12)

2. Forest Plans do not calculate timber cash flow (p 13)

3. Managers say cash flow calculations are not done (p 17)

4. Managers say cash flow analysis does not influence decisions (p 17)

5. Managers are largely unaware of how current decisions have affected and will continue to affect future cash flow (p 17)

6. The key point is that managers are trading cash flow for both current benefits and investments in the future, but the terms of the trade have never been clearly defined...(thus)... it is impossible for managers or an outside review team to judge whether an appropriate balance has been struck (p 17).

These are frank, useful observations by Forest Service professionals seeking to make resource management more effective.

The Forest Service has circulated drafts of some general approaches to cost accounting. The detail, format and goal have not been spelled out. In response to your questions, my paper outlines a number of revenue and cost issues and elements and recommends they be considered. One point I would emphasize is that Forest level tests and trials should be used so that competing ideas can be evaluated so that the most sensible approach is adopted. The selected system should be one that professional land managers embrace because it helps them deliver more cost effective multiple-use management and does not make them servants of accountants and lawyers.

Finally, I would note that my initial reaction to early studies that suggested there were substantial situations where Forest Service timber sale costs far exceed revenue, was to dismiss them as inaccurate. I was wrong. Whatever their defects, they were essentially correct in conclusions.

I request my paper be printed in the Hearings. The views I express are mine and do not reflect the views of any organization with which I am affiliated. I am prepared to answer questions or assist in any way practical as you proceed. Thank you for this opportunity to express my thoughts on this important issue.

******

Testimony, SubCom. on Forests, Family Farms & Energy
on "Economics of Federal Timber Sales", June 6, 1985
by Robert E. Wolf, Forester, St. Leonard Md.

This statement responds to the request that I discuss work I did on March 7,1984 for the House Com. on Appropriations which examined "profit and loss" on Forest Service timber sales and to answer a series of questions posed to witnesses for this hearing.

INDEX TO STATEMENT

		PAGE
A.	Forest Service Data Deficiencies	1
B 1.	CRS Mar 7,1984 Report Discussed.	2
2.	Inaccurate Forest Service Statements	5
3.	Inaccurate NFPA Statements	6
4.	NFPA on Self-Supporting Forestry	7
5.	What Should be the Agenda	8
6.	Profitable Forestry- an Old Idea	8
C 1.	Subcommittee Question 1 & Answer	8
2.	" " 2 "	10
3.	" " 3 "	11
4.	" " 4 "	12
5.	" " 5 "	14
6.	" " 6 "	15
7.	" " 7 "	15
8.	" " 8 "	16
9.	" " 9 "	19

A. Forest Service Data Deficiencies

Anyone seeking to present a fair and complete picture of a National Forest Issue immediately runs into problems on what are the current facts. For example, how many acres of NF land were eligible for commercial timber harvesting in 1984 ? The Annual Report shows total NF acres by States, but not commercial forest land or commercial range land, and other types of land. Total Range acres are shown nationally at 105 mil., with another category, "Suitable" at 51 mil. acres, but animals grazed by species are shown by States. Wilderness acres are shown in acres by States, Wild River "Additions" only in miles, acres in recreation sites are not shown, but recreation use by type and Rec. Visitor Days by States is shown. Timber Sold and Cut, Volume and Value,is shown by States, but not unit prices or amount sold or cut per acre of com. forest. Timber Cut includes long term sales, but Sold would include long term sales total in the year sold. Volume and value of timber uncut under contract is not shown. The few forays at showing some of these things have been "National" or "Regional" displays. The total road system is not shown by States - all that is shown is current construction. This table is headed "Construction and Reconstruction" but the 2 are lumped together to show roads by miles and number of bridges, plus total combined dollars, divided into appropriated funds and timber purchaser work. Thus cost per mile or cost per bridge and miles of new road and miles of old road reconstructed are not shown. Nor is there anything which segregates appropriated funds as to primary road use. In contrast there are 25 pages of reforestation and timber stand improvement tables, two a series on NEEDS by National Forest and Site. On the other hand the table of certification of work done, does not show costs per unit.

Thus developing data to fairly present a picture of multiple-use activities is virtually impossible due to missing information; some is shown at national or regional levels and other at State or National Forest levels. There is a paucity of comparable cost and revenue data and virtually no meaningful "benefit" or "impact" data.

For example, what is the National Forest Road situation ? Roads are not needed in Wilderness, and road needs for grazing use are different and far less than commercial timber use. The Budget Justification shows that there are 342,000 miles of Forest Service Roads on the Forests. A 1968 Public Works Hearing on roads shows that there were then another 30,000 miles of Interstate, ABC, State and County roads. Today there may be a 380,000 mi. road net on 186.9 ac. of National Forest.

NF acres less Wilderness (186.9-32.1)= 154.8 mil ac.). Annual Rpts don´t show NF com.timber acres, but 1977 Forest Statistics shows 88.7 mil acres. The Ann. Rpt. shows 105 mil. ac. listed in grazing permits. Some "forest" is also under grazing but not range land. State acres, as can be seen for Wilderness, is not possible for forest or range.

The problem of trying to show how many commercial forest acres are roaded is self evident. If one assigns 67 % of the estimated 380,000 miles of road (255,000 mi.) to an estimated 82 mil. acres of com. forest land, then there now is one mile of road for every 320 acres of forest. The extent of the road system that now exists is an important factor in the debate over "below cost" sales and the role of roads. If the 1 mi./320 ac. is a fair ballpark figure, the situation would vary widely by Forest.

I cite this at the outset for 4 reasons:

1. The Forest Service Annual Reports do not give balanced picture of how multiple-use management is proceeding, nor does it display the timber business coherently.
2. You will note the absence of "wildlife" citations. The reason is that there no minimally useful citations in the annual reports. Thus the Forest Service does not present a multiple-use focus.
3. In the debate over timber, the case is made on the need for roads and for cost/benefit allocation. A very substantial road network is in place. This 380,000 mile network probably serves most uses other than timber adequately. Most current forest area road needs are for timber.
4. Amortization of roads, at this stage, would require inclusion of past road road investments plus new investments and measuring reconstruction costs versus new roads. On the other hand, a current cost system would understate true costs. If timber cutting did not display a positive P/L picture using only current costs, it would be less so with past costs included.

B 1. Mar 7, 1984 "State-by State Estimate of Situations Where Timber Will Be Sold by the Forest Service at a Loss or a Profit".

This work stemmed from a detailed and specific 6 part question from the Appropriations Committee to the Forest Service about timber sales costs.(P 326-342 Pt 11 Hngs,House Approp.Com. on FY 1984 Int.Bud.) The Forest Service was asked to show ALL Revenue and ALL Costs by Forests. It was asked to display a net income/loss picture, make a ranking and explain the situation. The Forest Service gave a partial and incomplete answer, failed to total, average or rank Forests and made only a cursory explanation. In addition to excluding certain revenue and cost data the FS failed, among other things, to provide the Forest-by-Forest ranking showing those with profit or loss, The Committee requested I try to do it.

There were other unanswered questions which, with the data available, I could not undertake to answer.

It was only after the Forest Service did not answer that I was asked to examine this Forest Service data and perform the undone Forest Service tasks using the Forest Service data shown in the Hearings. Several things were immediately evident:

a. 1982 was the decade´s worst revenue year. It wasn´t typical.
b. The Forest Service had excluded alot of revenues & costs.
c. The data was not totalled, averaged , ranked nor explained. The Forest Service simply listed it by Forests and Region.

After 2 trial efforts I concluded the fairest way develop a ranking was to use the only "cost" data available, i.e., that in the Hearing. I also concluded that a fairer way to illustrate revenue was to drop 1982 and use a longer period. No Forest revenue series was available so I turned to the only public source, the FS annual reports on volume and value of timber sold & cut. I developed 3 trend periods,(1) 11.25 years from 1973 thru 1983, (2) the most recent 6 years, 1978-1983 and (3) 1983. Since "revenue" data was by States and "cost" data was by Forests, I was forced to develop a State by State ranking system. However, by reducing the display from a Forest to a State level, the task became manageable. Since the FS data had so many defects, illustrating 39 States would show relative rather than absolute situations. Also for illustration purposes two additional measures were designed. Volume "Sold" and "Cut" were computed per acre of commercial National Forest timber land from published source to see if it showed a relation to the financial data. Also timber values were computed not only an a per thousand board foot basis, but also on a per acre of NF commercial forest basis. Costs were also computed on this basis. I note here that the Annual Reports do not display per M b.f. timber prices, Sold or Cut, thus these had to be computed. In so far as I am aware, these data have never before been assembled and published, thus I thought they would also prove useful in other ways.

My view was, and is, that displaying the data per acre of commercial forest land display is a fair and useful way to view cost, revenue, profit and loss and volume sold and cut trends.

Finally, I used the actual timber cut and money paid as the measure. This was because (a) bid rates are affected by stumpage rate adjustment in several regions, (b) uncut volume under contract was rising irregularly by regions & (c) long term sales would not be fairly reflected. Subsequent action to permit an estimated 10-12 bil. b.f of timber under contract to be relinquished as well as to reduce timber contract rates on short-term Alaska sales, even those closed since 1974, demonstrates that actual revenue more nearly displays the real world than do bid rates.

I then proceeded to develop an illustrative ranking. I broke the 39 States into two basic groups, I. Unprofitable and II. Profitable using the 11 year average as the divider. Next I subdivided the 29 Unprofitable States into two Groups; (1) The 23 States that did not recover two costs, Timber Sales Layout and Admin. plus Resource Support Costs and (2) The 6 States that recovered these two cost but did not cover Reforestation and FS Road Engineering & Direct FS Road Construction.

For these 29 States a distinction appeared when the 11 year average was compared to the more recent 6 years ('78-'83) and 1983. Indiana/Ohio, which was combined, moved from not recovering the 2 "sale" costs to recapturing all 4 costs by 1983. I showed this as a separate listing because of the remarkable change over 11 years. Turning to the remaining 6 basically "unprofitable States based on 4 "costs" , only 2 States showed "losses" for the entire period price structure. In contrast, 4 States went from a negative to a positive situation, with the shift to positive extending back to 1978 prices.These were the States of Georgia, Arkansas, Oklahoma and Alabama.

There were 10 States which displayed profits when the 4 costs were measured against revenues for the entire period. Nationally the prices received for the 3 comparison periods exceeded the four 1982 costs.

I wish to emphasize that this shorthand way of describing the situation really said that if the 4 costs for 1982 were all of the FS costs for timber sales and the average prices for any of these periods were the prices received in 1982, these would be the "profit" or "loss" pictures. Thus for a current budget period one could look at revenue trends and current costs to estimate levels of cash flow and trends.

For example, Alabama timber revenue averaged $ 5.11/ ac. for the 11 year period but by 1983 was up to $ 10.42/ acre. Alabama's 4 costs for 1982 were $ 5.35/acre. Thus in looking at what is happening, if in the 1983 budget year revenues were above $ 5.35 and costs remained the same, one could expect a 1984 cash flow profit. In contrast, the 11 year average price for Montana was $ 2.22/acre.It fell in the '78-83 period to $ 2.17/ acre and tumbled to $ 1.46/ac. in 1983. The 4 costs for 1982 in Mont were $ 5.03/M b.f. and the State was one where not even the 2 basic costs were recovered at a $ 2.22 income level. For 1983, Montana shows revenue 1/3 below the 11 year average and mounting losses compared to what they would be if prices recovered to the 11 year $ 2.22/ac. average.

Looking at two contrasting "profitable" States, Washington and South Carolina different pictures emerge. At the 11 yr. ave. price level South Carolina had a "profit" of $ 5.44/ac, which by 1983 had risen to 13.07/acre. In contrast Washington, at the 11 year price level had a "profit" of $ 3.51/ ac. but in 1983 this fell to $ 0.70/ ac. Again using the expectation that 1982 costs would apply in 1984, one could expect high and possibly improving cash flow in South Carolina but low and stable profits in Washington.

What do these various situations display ? In a crude way they measure what is happening to revenue per acre, which is a combination of volume cut times unit value divided by forest acres, when compared to current costs. If a State showed a - $ 3.00/ac. cash flow at various revenue levels, it surely would not rank with a State which has positive cash flows which rise to $ 13.00/ acre. One other thing that it reveals, since it is in dollars per acre is that increasing sales volume at low prices won't cut losses. Sales costs will eat up revenue.

In essence, this was an examination of the level of revenue needed to cover costs on a cash flow basis. It looked at historical levels to evaluate whether the loss gap was narrowing , the profit level falling, or the profit level improving. It displayed as many combinations as possible to illustrate that Forest by Forest it would be possible to gauge the ability of the timber program to cover costs.

A significant aspect is the division for the "unprofitable" situations into kinds of costs not recovered. Actually some States did not recover the basic timber sale cost, others did recover this cost plus support, some did not recover these two plus reforestation costs and others did not recover these 3 plus roads. Knowing these sorts of things seems to me to be a basic first step toward managing efficiently, even if one is willing to sell timber at a loss.

In doing the assigned task, I was well aware of the deficiencies in the Forest Service data. For example, if costs and revenues had been set forth in full and available over a period of years, a much more precise picture could have been presented. I pointed out that there may be better tools to do the job but that the Forest Service has neither developed nor presented them in budget discussions. At most I considered the work I had done as a precursor to development of more effective ways to examine places where timber can be sold with a positive cash flow and the economics of investments in this public forest enterprise.

I discussed the sort of revenue and cost data that was unavailable. In short, I sought to show the variability within the system and the fact that if the data were displayed by Forests over time the relative attractiveness of using timber sales to secure multiple-use benefits could be more effectively gauged.

What my work did suggest was that it is possible , feasible and desirable for the Forest Service to know what it costs to sell timber and to seek to grow a new crop of timber. The facts might contain some unpleasant news, but it also would have some good news.

My work for the Appropriations Com. would not have been necessary if the Forest Service had responded to their legitimate request.

B 2. Inaccurate Forest Service Statements About the Mar. 7 Analysis

There have been a stream of inaccurate statements by the Forest Service, some about this work, made even more ludicrous by the fact that each criticism is really an indictment of their own work. I don't mind being chastised for my own sins but it is a bit much to be expected to do penance for Forest Service sins. Let me just cite the most recent Forest Service trip to fantasyland, in their April 10 letter to this Subcommittee responding to question M3 at pg. 8.

The FS was asked, do the CRS & GAO work showing below cost sales provide an accurate financial picture of timber sales management ?

The FS said "NO.", then said (a) these studies excluded non- timber benefits, (b) inaccurately measure the value of physical assets such as roads, & (c) include significant cost items, such as county 25 % payments, that are not true costs of timber management.

What are the facts?

My analysis made it as clear as I could that it was only illustrative and was incomplete because there was no complete, Forest by Forest data available from the Forest Service. A more appropriate Forest Service answer would be , " The CRS study could not present an accurate financial statement of the Forest Service timber sale program because the Forest Service did not provide the data to the Committee on Appropriations for CRS to use."

Next as to the 3 Forest Service claims about the CRS study:

(a) The Forest Service excluded non-timber benefits, along with alot of timber revenue, from the data it gave the Appropriations Com. Since the FS itself does not have sound data on non-timber benefits, none was available to me to use.

(b) The FS excluded the value of physical assets such as purchaser credit roads. I also point out purchaser built roads is a complex issue which involves far more than "effective purchaser credit". Basic effective credit in "normal" sales is an exchange of timber for roads. But there is more. Ineffective credit may result in the FS acquiring a road without trading timber assets. Ineffective credit coupled with "wooden dollar" bids, may create hidden Forest Service costs and losses. Roads, when they occupy productive timber land and require annual maintenance, have costs that need to be weighed. Road credits result in deferred timber income - a cost to the FS. It is one thing to say I, or the FS, should include roads as an asset. It is another to do it properly. The FS lacks a system for doing this and I did not attempt to do it for them.

To compound the completely false statement, the Forest Service Annual Report for 1983, which was issued at the same time as my work, has their own estimate of sales sold at a loss. The FS says they excluded PURCHASER CREDIT. In short, the FS excluded road credit from the data it gave the Approp. Com and from their own Annual Report compilation, then has the gall to allege my work is defective because it did not include what they excluded.

(c) It is more outrageous for the FS to say that I included "several significant cost items, such as 25 % fund payments to counties..." The costs I used are those provided by the Forest Service to the Committee on Appropriations as shown on pages 330-338, Part 11 Hngs, Com. on Approp, SubCom. on Int.,for FY 1984, 98Cong. 1st Sess.

To compound these outrageous statements, the FS 1983 Annual Report contains their own estimate of above and below cost sales for that year and shows 37 % of the value of timber sold in "below cost" sales, compared to the only 29 % shown in my analysis of their data. I note that the FS does not claim my analysis showed a better picture than theirs !

d. The Forest Service claim that 25 % payments in lieu of taxes are not a true timber management cost is self-serving and inaccurate. When timber is sold, 25 % payments must be made. If timber is not sold, they are not made. These payments are clearly a cost created by selling timber. Further, these payments are calculated on not only the money deposited in the National Forest Fund and the Knutson-Vandenberg Special Account for Reforestation, but also on timber traded for roads in the form of "Purchaser Credit". The FS has recommended that payments to counties be reduced. I doubt if they are going to testify that the reduction in payments won't reduce Federal costs.

The Administration proposes as a part of its tax simplification taxpayers not be allowed to deduct property taxes, which will include timber property and yield taxes, as ownership or business expenses. I don't expect that there will be any foresters, private or public, who will advance the peculiar argument that taxes aren't a true cost of timber management. Whether such taxes should be deductible can be debated. Any forester who contends taxes aren't a true cost of timber management ought to be a candidate for admission to a mental institution. Taxes are a cost of business in the world I live in!

B 3. Inaccurate National Forest Products Assn Statements

The National Forest Products Assn & its allies have also advanced several mendacious views. I shall cite one from NFPA. In the Jan '85, Forest Industries one of their employees wrote that there is a "Wilderness Gang", whose members include CRS. The reference was to me, although by then I was retired, because it referred to my Mar. 7, 1984 work. My work, along with that of the exceptionally highly regarded

House Appropriations Com. Investigations and Surveys Staff and GAO, on timber sales were alleged to be part of a secret agenda for Wilderness. In this eagerness to attack anyone suggesting that multiple-use forestry should be profitable, NFPA, overlooked their own record. For example, a few years ago they sponsored and published a "Forest Productivity Study", which purported to show, among other things, where PUBLIC and private forests could be operated with at least a 10% return.

B 4. NFPA Wanted Financially Self-Supporting Multiple-Use in 1960

Right on this point, in 1960, when the Eisenhower Administration sent its Multiple Use & Sustained Yield Bill to Congress NFPA testified before this very Committee. What did it want ? It asked that NFPA's substitute bill be enacted. In part this bill would have required:

> " that the national forests SHALL BE MADE FINANCIALLY SELF SUPPORTING in so far as possible".(emphasis mine)

The term "financially self-supporting" is plain English : it means that cash revenue exceeds all costs,including investments.

Testifying, NFPA made this goal crystal clear. Their witness, Ralph Hodges said the National Forests:

- - are capable of producing a RETURN to the Federal government many millions over and above annual operating costs - -

- - 1960 costs for protection and management were alleged to exceed returns by $ 40 mil. annually - -

- - goods and services could be produced on a multiple use and sustained yield basis AND AT THE SAME TIME RETURN SUBSTANTIAL SUMS TO THE TREASURY - -

- - timber produced 95 % of FS dollar revenues - over $ 100 mil. annually, of which 25 % goes to the counties - -

- - the lumber industry would be delinquent if it did not express itself freely and frankly. (Emphasis mine).

The term "RETURN" has an clear meaning:

" to yield a profit, revenue, as in return for labor, expenditure or investment"...and "...the gain realized on an exchange of goods" .... or " a yield or profit from a business or investment". Also under the word " Economic", we find, " yield per unit as compared to cost per unit involved in a specific industrial process." (Random House Dict.1982).

I agreed with NFPA in 1960. I hold the same view now. The National Forests can be operated in a Multiple-Use, Sustained-Yield framework, be financially self supporting and return at least modest sums to the Treasury after all costs, including taxes.

Just this May NFPA's Board of Governors claimed there is a "loss of U.S.control over fiscal and monetary policy" and the solution " is to get federal spending under control..". The stern medicine NFPA prescribes is to cut the already minor federal aid to State and Private Forestry, & eliminate the modest $ 12.5 mil. Forest Incentive Program for small woodland owners. Elimination of below cost timber sales is apparently not on their agenda for ways to get federal spending under control.

It is obnoxious that NFPA thinks it holds a license to urge balanced budgets nationally , but believes it is O.K. to support unrestrained spending on timber sales, a timber relief act that will reduce Federal income by probably $ 1 billion, but not urge financial accountability for timber sale programs that benefit it and subsidize some of its Members.

B 5. What Should be the Agenda ?

I firmly believe that multiple-use sustained yield forestry can be moderately profitable, and it should be made so. The 1960 MUSY Act does say the National Forests shall be managed:

> "..with consideration ..to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

In plain English I view the language in the 1960 Act as suggesting that "dollar return" ,refers to money left in the Treasury after all costs. The fact that this sum need not be the "greatest" that could be secured, also suggests a positive return is expected. The 1960 Act does not license uncontrolled monetary losses to be borne by Federal taxpayers.

B 6. Forestry Can Be Profitable - an Old Idea

The concept that public forestry can be conservative, serve all of the forest land resources and be profitable is not new. In 1914 Forest Service Chief Graves, testifying before this very Committee discussed this idea in presenting his budget request. He said "it is our policy to work toward a self-supporting basis - not only for the individual forests but for all the expenditures of the entire Forest Service."

He outlined a "Four standard" concept and explained the current situation. Standard one was recovery of individual forest operating costs. Standard two was recovery of operating costs plus investment costs such as roads and reforestation. Standard three was adding the overhead costs for the Regions. Standard four was covering all FS costs bottom to top, including research. As of the end of 1913 he displayed 44 Forests meeting Standard One, showed the number rising to 66 the next year, at the end of 5 years he expected 111 Forests to meet that Standard and in 25 years he forecast 145 Forests would meet it, with 18 Forests out of a total of 163, classified as "Indefinite". These were so shown because their role was primarily protection or they had been largely destroyed thru past abuse.

Graves stressed that the individual National Forest was the basis for judgment rather than the national forests as a whole.

When questioned further Graves said it was his conservative estimate that it would take 12 to 15 years to make the Forest Service, including the Washington Office, investigational work, and the entire work which the Service might have to do, self-sustaining, assuming carrying out the work now being done and the same standard for work such as reforestation. Graves also said that budget increases for 1915 were "more connected with timber sale work than anything else." In that era Forest Service revenue from grazing was almost as large as from timber. So the idea that National Forest revenues could exceed all costs is neither new nor novel. Without a complete picture of all revenue and all costs, Forest by Forest, the possibility can not be determined.

C. The 9 Subcommittee Questions and Answers

Que.1. Define "Below Cost" sales, explain my definition and the implications of how many sales are so defined.

Answer:

First a bit of background. "Deficit Sales and" Below Cost sales are often confused. "Deficit Sales" are sales appraised by the FS which, at Advertised Rates are not estimated will bring a buyer of average efficiency a normal profit, and, in fact, may cause him to lose money if bought. The FS timber sale valuation process does not seek to set an appraised rate that recovers FS costs. The appraisal simply displays FS views on worth of the timber to a buyer as a commercial enterprise. The FS has long used a "Minimum Appraised Price" structure. Minimum Rates are applied when the residual, after estimated buyer costs are subtracted from estimated product value, yields an amount that is lower than these minimum stumpage rates. At one time minimum rates were estimated agency costs to make a sale. Next they became arbitrary, minimums, species by species, unrelated to anything. Next they became a mix of these and cost to reforest cut over sale areas plus $ 0.50/ M b.f., before considering payment to the counties. In practice, these minimums may be none of the above. One thing they have not been for years is even a rudimentary measure of average costs to make sales and reforest the sale area.

Another thing Minimum Advertised Rates are not is an estimate of the value of the timber to a buyer of average efficiency. Dr. John Beuter, Assoc Dean at Oregon State Univ. has done such a thorough job of describing this in his "Federal Timber Sales" paper that I shall not further plow this field. I observe that AT ADVERTISED RATES "deficit sales, will typically be "below cost" sales, simply because these rates bear no relation to timber selling costs. I also observe that deficit sales, when bought at Advertised Rates, may require the buyer to pay more than the value of the timber, manufactured product value less logging and manufacturing costs. In addition to paying the Advertised Rates, the buyer may have to build specified roads without getting timber equal to the estimated road cost.

I define a "below cost" sale as any sale where the FS, when all cash and timber used is weighed against all costs, will spend more than it gets on a cash flow basis. I condition this definition as follows:

a. Costs for timber sale layout etc are average costs for the Forest.
b. Road costs are those for the miles of road and typical construction costs for that class road.
c. Costs applicable to a sale, such as road maintenance, slash disposal reforestation,etc., are properly charged to it.
d. If investment costs such as roads are used and one wants to amortize, then past road costs are included.
e. The concept is applied to sales to commercial users who convert the timber to a product they sell.
f. Consideration is given to whether the net after all costs when compared to the site classification of the sale area indicates that based on expected growth rates and species that the next crop can be expected to be unprofitable.

The implication is that with site specific analysis, forest land would be rated with the goal of selecting at least the optimum acreage which would yield a "break-even" result for that Forest. If for valid reasons a greater timber production level was to be selected, the effects would be spelled out. Under this concept not every acre nor each sale would be expected to be "break-even". The whole "timber" Forest would be the basis for defining the "above cost" timber production unit.

The FS data cited from Annual Reports showing reforestation needs by site, by NF's, demonstrates that it is possible to do this for all forest land and to tie cost data to operations.

How many sales would this definition place in the "below cost" category ? This is not the issue. Sites with highest potential would be managed for optimum levels of growth in a MUSY framework. Intermingled lower site & "loss" areas would be included for efficiency since the target would be "break-even" for the area selected as "above cost". Annual fluctuations would be recorded but 5 year and decadal results would be used to set the targets as Management Plans are revised. Changing economic conditions would be recognized. The biological concept of commercial forest land would not rule. It would be mated with economic considerations.

In summary, I do not think it makes sense to expect every sale to be "above cost". I do think it makes sense to zone a Forest so that the " break even" target is used as the basic goal. The thrust would be to avoid subsidization, spending money where losses would occur selling timber, while failing to spend money where management could profitably increase forest yields in a MUSY framework. I reach this conclusion based on the evidence which clearly suggests that alot of higher site National Forest land is not producing optimum timber in a MUSY setting. This is the goal that should receive primary attention. I think that this can be done within existing law.

Que. 2. The FS seems to argue below cost sales should not be a major policy concern because:
(a) their environmental restraints raise costs.
(b) long term multiple-use perspectives,and
(c) proper accounting is impossible. Beauty can't be valued in dollars.
Do I agree and what comments have I
Answer
Background:

Accounting is more an art than a science. Every day we read of problems Defense has with cost assignments by defense contractors. No matter how costs are internally assigned, every business comes to what some call "the bottom line". The FS argues that by showing some selected costs,some revenues plus a few rough nonmonetary benefit calculations, that timber sale benefits exceed selected dollar costs. It is not a simple matter, even if one wants only a strict financial accounting, to decide how to show costs & revenues. Non-revenue costs and benefits add other complications. The FS is like a conglomerate corporation with diverse lines of business and many operating units. The question of how to assign costs and the level at which measures will be applied to me seems to be vital to encouraging both private and public wise land stewardship. The forested portion of the National Forests are but 20 % of the U.S. forest land. How they are managed can help demonstrate to the other 80 % ways to make wise choices of types of land stewardship. A sound measure of intangibles must be preceded by a sound measure of tangibles.

(a) The degree to which strict environmental constraints raise timber sale costs is simply not quantified. Not even the Mar 21,1985 Analysis of the Black Hills NF,SD., issued by the Chief of the FS summarizing the comprehensive study by a FS Task Force documents the impact of such costs. For example, a change in timber pricing seemed to have the largest effect in reducing timber revenue on that Forest.

Commonsense suggests that environmental actions may cost money, but they also may be highly long run cost effective. How much does need to be determined because the effort should be to get the optimum amount at the best cost. While there can be some general guides, this is not

something that can be easily put in a "cookbook".
(b) The same applies to multiple use benefits and costs. One would expect that the planning process would identify these and set the tone for management. For example, game habitat will shift as forest types age thus the Plan will show how this is to be accomplished. Specific sale area actions, accumulated, are important in measuring the carrying out of the Plan.
(c) Proper cost accounting is not defeated because non-monetary values can't be quantified. The FS may need two "accounting" systems: (1) would be the classic business type and (2) would be the effort to measure all costs and benefits for all multiple uses. For example, the road system needed for the logging/timber management systems might be far different than that the various recreation uses require. What would the recreation road system cost ? How does the logging road system positively and negatively impact recreation ? In its 1984 report the FS made an effort to estimate nonmonetary benefits. It assigned transitional forage produced for livestock as adding 147,100 AUM's valued at $ 1,600,000 or $ 10.88/AUM. With grazing fees at less than $ 1.50/AUM, the FS winds up losing money on grazing created by timber sales. Nor is there any evidence that these AUM's were used by livestock.

Determining the "other benefits" is a desirable goal. The first goal is to get a system that measures real costs and benefits to the U.S. in monetary terms. For example, grazing, recreation, hunting, water used, etc., do not have fees that recapture costs. While the current focus is on timber, fairness requires that all activities be judged on the same financial scale.

In my view cost accounting can be a friend to resource management if applied with commonsense. Dollars are not free. It does not matter whether timber is bartered for investments and services or dollars are appropriated. Knowing what it costs to do things breeds consideration of the most effective ways to do them. Neither private or public organizations are free to spend whatever they want for whatever they think is desirable. If the issue raised represents FS views, I would not agree with them.

Que. 3. Do I agree with the FS that "the issue of below cost sales is not primarily an accounting problem ? What creates such sales ?
Answer

I don't agree because the statement makes little sense. Saying an animal isn't a donkey does not make it an elephant. As the Mar.21 FS report makes clear the cost of doing business has not been one of real concern or analysis in NF management.

In a timber sale context commonsense tells us that not all of every tree is "profitable", and the same is true for logs, and entire sale volumes. For decades the FS and Industry have debated these points, with Industry objecting to inclusion of too much "loss" material in sales or being required to remove logs less than a certain fraction "sound". The FS, for example, actually appraises sales on the value of the whole sale. As a result, most species prices are adjusted so that low or negative value species are priced at arbitrary minimums. This is done by reducing the price of the "plus" value species. The FS appraisal is, in effect, with all its imperfections, a detailed effort to estimate whether the sale as a whole will be profitable to a buyer of average efficiency. The Species rates are not their fair market value. The sale as a whole value may not be fair market value. Bidders concentrate raises on certain species, thus bid rates may not reflect the bidder's estimate of fair market value. The FS omits many "timber allowances" from its estimate of timber "revenue".

The FS has not developed a comprehensive, intelligible way to present revenue or costs. Thus there is an "accountability" problem. While any system of cost accounting will be subject to debate, this is the place to start - with measurable numbers applied using a defined standard.

As the various FS data, as displayed by it and other analysts shows, there are "below-cost" sales. The price the timber will bring after costs are considered, for these sales won't cover costs. The timber stumpage value for conversion may be low. The FS costs to develop the sale may be high. In some situations, the facts suggest that even a "cut-out & get-out" sale would lose money for the FS.

The primary cause, in my view , stems from the allowable cut syndrome. In public forestry - and I include myself in this indictment, we have too often thought that selling the biological "cut" was a real and desirable goal. Since we did not care about costs, we were not very selective in looking at the financial consequences. When challenged, we talked about vague multiple-use values. If an industry firm would pay the appraised price for the timber , we declared it was economically sound. It might be to that firm, but it may not have been to a landowner.

Committee members can answer the question as the board of directors for a 900,000 acre National Forest. If they are told they will have to spend $ 6,000,000 to gross, before taxes, $1,000,000, would they authorize management to incur a $ 5,000,000 loss. If they had another 600,000 acre Forest with costs @ $ 3,000,000, revenues at $ 10,000,000 and before tax gross at $ 7,000,000, under what circumstances would they say that since the combined operation made $ 2,000,000, they would continue authorizing the $ 5,000,000 loss unit to operate the way it is? As prudent directors, they would question these losses and look for managerial improvements, since their money is invested and at risk.

Que. 4(a) Can the below cost issue be resolved thru better accounting.
(b) What should be the costs and benefits listed ?
(c) Can the cost of the system be justified ?
(d) Comment on the alternatives the FS is considering.

Answer
a. The issue is more than timber sales and below cost sales. An effective accounting system would embrace all activities, not single out timber. An effective cost accounting system can improve long term management and this is the reason it should be applied. It is one of the tools, not the exclusive tool management needs.

b. I would opt for a modified "Graves" system as mentioned at Page 6. This would set as several "standards",broken out by resources.
1. Covers basic Forest level operating costs.
2. Covers (1) plus Forest level resource costs.
3. Covers (2) plus R.O. costs for NFS.
4. Covers (3) plus W.O. costs for NFS.

For timber, (1) would consist of:
a. The share of Forest Plan costs
b. Timber Sale Planning generally, Inventory, specific sale plans,

appraisals, sales, and administration thru closing.
c. Support costs, (see p 668, Ex Al, Pt 10 H. Hng. '85 Budget), including engineering for purchaser built roads.
d. all allowances in timber appraisals for for
   1. Engineering PC roads by Purchasers,
   2. Allowances for Road Maint., Purch or Deposit.
   3. Allowances for Slash Disposal, Purch or Deposit.
   4. Allowances for Erosion Control,
   5. Allowances for Snag Disposal,
   6. Allowances for Scaling, Purch or Deposit.
   7. Yield or Severance Tax allowances.
   8. Any other land management benefit allowances.
e. Payments to counties under 16 USC 500 etc.

2. Resource Investments costs would be:
a. Reforestation and TSI, KV or Appropriated, including nursery stock.
b. Engineering and Construction of FS direct approp. financed roads.
c. Investments in buildings or other physical facilities to operate the program.

3. This would include the R.O. staff and overhead, including off-Forest work for billing on sales etc.
4. This would include the W.C. staff and overhead

I would provide for a 2 tiered description:
Tier (1) would show P/L before 25 % payments and Tier (2) After 25 % Payments.

I would show revenue by source and in total:
1. Direct appropriations from Congress.
2. Permanent or Special Appropriations, such as KV, Coop Road and Slash Deposits, as "accounted timber allocations".
3. Credits in appraisals for slash, road maint.,scaling, road construction etc, purchasers are expected to do would be "unaccounted timber allocations. These are termed "unaccounted" because while the actual timber allocated at contract rates can be estimated the actual cost for the purchaser doing the work is not known, while those in (2) above can be determined by the FS, which expends the funds.

I would account based on timber cut and paid for, since over time this would be the real result. I would track the estimated contract volume and value, balancing out each sale as closed to account for the difference with estimates. This would provide a more accurate measure of uncut timber under contract.

I would track the volume and value uncut by years remaining for a contract, so that build-ups could be known, especially when a particular buyer was piling up uncut timber. This would serve as an early warning of problems that would lead to requests for extensions and put into motion timely notice that cutting existing contracts is expected.

The small sale, free use or charge, for noncommercial use would be handled by a separate appropriation and accounting. The above would be restricted to "commercial sales". Also salvage sales under Sec 14 (h) of NFMA would be handled separately, since income is supposed to cover specified costs.

If road amortization is selected for roads, roads previously built must be included. Also, examination needs to be given to costs to reconstruct existing roads, annual maintenance costs, lands taken out of permanent forest production etc.

The above is a cash flow basic accounting outline, which is designed to show this along with the exchange of assets when timber is traded for improvements such as roads, or timber is traded in lieu of a cash appropriation to secure a service.

The measure of "benefits" becomes more complex, especially those that are difficult to quantify in dollars. If one assumes that certain species of wildlife or fish are desired , what are the numbers that would exist under no action? What are the numbers and cost to attain under a program that excluded timber cutting but sought to provide enough habitat change to supplement what would occur naturally ? Also what may be the adverse impacts timber harvesting may produce ?

I think there is enough data available now to perform the cash accounting on a series of different forests. The next step would be to explore the most rational way to define other benefits and costs and to measure them - as well as to assign proportions of costs to other programs. On the latter point, one approach would be to estimate what would be done for each of the other resources/uses if it were being treated.

c. I am not sure what is considered "substantial sums" for an accounting system. The agency now tracks costs for various reasons. It assigns appropriated money to Forests by accounts. It does not track the timber traded in appraisals for services or investments. It tracks 25 % payments. While a costly and fancy accountability system can be contemplated, the place to start is to see what part of the existing systems can be used and what sort of data exists at the Forest level now. One way to hold down costs is to design it on a trial basis on a series of Forests, work out the bugs, then see what Service- wide implementation would cost. Compared to the current cost of operating the timber appraisal system, I don't think costs should be substantial.

d. The detail of the 4 alternatives the FS is considering is sufficient for only a general judgement. Alternatives 3 or 4, Sale by Sale accounting, at best would be test and building block devices. As I have indicated, I am more inclined toward a Forest by Forest System that would fall more nearly under FS (2). The system should be designed to encourage managers to improve. The concept of showing degrees of costs covered could lead to more realistic apportionments of resources.

Que. 5 Sec 6(k) NFMA requires identification of unsuitable timberlands.
a. Has FS implemented.
b. Should factors be applied to individual sales.
c. Should there be study or or changes in regulations or law.

Answer, in reverse order of above:
c. Study perhaps, but no changes without one.
b. No. Not intended by law. It says the Sec.,"...shall identify lands within management areas not suited for timber production..". Thus this

should be a part of the Management Plan. However, the Act permits sales for "....salvage sales or sales necessitated to protect other multiple-use values...". Thus such sales would require a finding of necessity. These should be of only the most urgent nature since, "..at least every 10 years.." such designations must be reviewed and suitable lands incorporated into Forest Plans. Since 10 years is a fairly short time, this decadal review should be the principal action that causes change.

a. From what I have seen I don't think the FS has applied Sec. 6 (k) as intended by law, especially as it relates to economic suitability. Specifically, from data available in several reviews the returns from timber do not even cover the cost to reforest for the next stand. The prospects, even if interest on this cost is omitted, is that the next crop will yield no more than the first. A rise in value will be offset by some rise in costs. For example, in the Deer Peak example on the Lolo NF , Mont., there are many problems with the presentation:

1. Timber values 100 % to 550 % higher than current values are used but
2. costs lower than current costs are carried thru a 50 year cycle.
3. The cycle will run more than the 50 years shown.
4. A number of real local costs are excluded
5. Benefits include 14 jobs/MMbf, compared to more typical 7 jobs/MMbf.

Que. 6 I will comment on only (d) Is the planning process the place to resolve the below cost sale issue ?

Answer

No. As the Black Hills Rpt shows current Plans lack the needed data. In the next cycle planning would be the place to start. More than plans are involved. Execution and result evaluation are the keys.

Que 7 Roads provide many benefits. The Chief, FS has said timbering is the most cost effective way to improve wildlife habitat.

a. What are other benefits from roads ?
b. From timber harvests ?
c. What are non-cash costs ?
d. When and how often do revenues plus other benefits outweigh timber sale costs ?

Answer

Background: The question mixes roads and timber and the issue of whether timber cutting is the best way to improve wildlife habitat is not substantiated by the material presented.

It is not proven that timbering is the most cost effective way to improve wildlife habitat. In some situations it will worsen habitat, for example, if old growth levels are reduced below area minimums certain species require. The Forest Plan prescriptions should set forth the age class and species composition sought so that the incidence and location of timber cutting is compatible with the wildlife species. Especially for fish, the extent and location of roads in relation to water clarity, purity & temperature are important issues.

Roads

The National Forests have about 188,500,000 acres in a gross area encompassing about 220,000,000 acres. In 1968 the FS reported 158,000 miles of roads it maintained plus 30,000 maintained by State & local governments. Today it reports 342,000 miles under FS jurisdiction but does not comment on roads others are responsible for. Portions of the

Interstate and "ABC" Federal aid roads provide important access to the Forests. There may already be 1 mile of road per 320 forested National Forest acres. The Road system has grown 2.2 times since 1968, which suggests that about 11,000 miles have been added annually. On the other hand the trail system, which was 158,000 miles has shrunk to 98,000 miles, a loss of 60,000 miles. Virtually all of the added FS roads have been primarily for timber cutting.

It may well be that the Forests are adequately roaded for multiple-use needs and the added road needs are primarily for additional timber harvesting. Further the House Inv. & Surv. Report, 4/15/85, reports that 55 % of current road money appropriated is spent for reconstruction of existing roads. Also, when one scans 2400 appraisal forms, one is struck by the number of miles of road reconstruction in the Purch. Credit program.

While I have long favored road construction as vital to intensive timber management, the data now available suggests that it would be timely to re-examine the road program, testing its effectiveness.

a. Road benefits: An adequate road system located to serve various needs permits an appropriate level of protection, management and utilization of resources. Roads must be built on a "worst-case" basis. For example if 30 ton, 8´ bunk, 60´ long logging trucks are to use the road, the road bed surface, alignment etc must accommodate them. Except for ore transport, no other use requires the type road logging does. Thus logging roads will permit every other use and protective activity. A road is not always a benefit - and certainly it is not a benefit alone. A road is a benefit when it permits serving uses that would not otherwise be served and the uses are beneficial.

b. Road timber benefits.

A permanent road may benefit timber when profitable,intensive management over the cycle requires such access. Otherwise a temporary road may be more effective.

c. Non-cash road costs. There are cash and non-cash costs for timber roads. For timber roads what is sought in theory is a balance between road cost and haul cost. In fact, roads are usually designed against the sort of logging trucks used, not against what the engineer believes is most efficient. Permanent roads take forest land permanently out of production. They often are located adjacent to streams, thus requiring stabilization work. The method of skidding logs from stump to truck loading point determines the network needed for a sale and their location, even though it may not be the most environmentally neutral system.

d. Given the present state of Forest Service data, especially on benefits,this question can´t be authoritatively answered.

Que 8. FS says road construction costs are not overriding reason for below cost sales.
a. What are my views ?
b. How should investment costs be allocated over time ?

a. The examinations of data I have made make it difficult to pinpoint one "cost" as the element that makes a sale "below cost". The same can be said for "deficit sales". Thus I would agree that road costs are not the overriding reason for such sales. For example, the Black Hills NF in SD., showed for 4 Costs,1982: and this Revenue picture:

1a. Prep and Admin. Cos	$ 1,722,000	Ave Rev.# '73-83	$ 1,153,000
b. Support Cost	$ 416,000	" " '78-83	$ 1,332,000
3. KV-TSI	$ 1,200,000	" '83	$ 1,169,000
4. FS Road Eng & Constr.*	$ 2,594,000	" '84	$ 1,663,000
Four Cost Total	$ 5,932,000		

* FS Excludes Purch. Credit est. @ $ 1,500,000

# Amnt Paid, NF Fund + KV

These figures do not agree with FS data in their 3/21/85 report because they used different time frames. However, for illustrative purposes certain things need to be noted.

1. The Revenue from timber sold is gross before deducting KV, which is an allocated account and probably results in an NF Fund deposit of about 60 % of the above revenue. In the best year('84) there would be $ 1,000,000 in the NF Fund and in the average year $ 700,000. After county payments the NF Fund net would be $ 200,000 in the best year and average about $ 40,000.
2. In theory, the only "cost" that timber sales would recoup is KV, but this is not true since 25 % of the KV cost must be paid to counties.
3. It is assumed that Prep and Admin and Resource Support are linked. If a sale is made both costs are incurred.
4. The FS study showed average annual road costs, '79-'83, @ $ 3,364,000 for FS and PC roads.

Any way one looks at the Black Hills NF, the costs for each of the 3 major functions considered separately, (1) timber sales + support, (2) KV, & (3) Roads, are not being recovered at best year revenues. Thus roads should not be singled out as the cause for negative cash flow.

In comparison, if one looked at the South Car. NF, a far more encouraging picture would emerge.

4 Costs for 1982 :		and this Revenue Picture;	
1a. Prep. & Admin	$ 1,101,000	'73-83	$ 6,285,000
b. Res. Support	$ 402,000	'78-83	$ 8,027,000
3. KV	$ 570,000	'83	$ 10,658,000
4. FS Road,Eng & Const	$ 1,187,000	'84	$ 11,842,000
Total, 4 Costs	$ 3,260,000		

Even this limited FS data, which they used in their work, shows that the South Carolina NF has revenues that exceed all these costs, compared to South Dakota, where none of the 3 individual costs were covered by total revenue.

Thus I conclude that one needs to see what the gross and net revenue picture is and determine what happens to the all cost situation rather than single out one cost as a culprit. When the cash flow is as negative as the Black Hills shows, the whole rationale for the timber sale program needs a rigorous examination. When revenues and costs are fairly close, improvements may be attainable, but the rationale for making sales less open to question.

b. How should investment costs be allocated ? The FS argues it should amortize roads. It did , used 1/10th of approp. road funds excluded Purch Cr., omitted past road costs and based it on timber "sold".

Some may contend that if the FS wants to amortize roads it must consider interest costs on expenditures for roads. Certainly, it must include all road costs:

FS 2400 (1) Purch. Credit
(2) Purch Eng. Allowances
Approp. (1) FS engineering & Sup. for PC Roads
(2) FS Augmentation, PC roads
(3) FS engineering etc, Direct Constr. Roads
(4) FS Contract costs, Dir Constr. Roads
(5) 25 % cost , payment to counties

The FS also needs to show construction versus reconstruction costs. It also needs to show both FS and 2400 Appr. allowances for road maintenance. If the "ineffective credit" procedure continues, it needs to differentiate between roads secured by trading timber and roads which are an added cost to the timber purchaser, and thus are an asset addition just as a direct construction road is. Presumably, if the road was in place the buyer would have bid more for that timber. It also needs to show the cost of deferred stumpage revenue on PC roads as well as 25 % effect of "wooden dollar bids".

The first thing needed before allocating road costs is to identify what they are so that those chargeable to timber can be isolated.

Even more basic, if the operating costs for making sales aren't recouped, re-examination is needed as to whether the timber sale program is the best vehicle for securing the benefits it is contended sales bring.

Over time, since there has been 80 years of unaccounted expenditures, I think that a cash-flow policy would be the simplest. It would tend to favor places where prior uneconomic investments have been made, but the cost of developing what past costs have been would be avoided. I doubt that it would materially change the relative position that various Forests would have. By using five year and decadal data the annual fluctuations would not cause program unevenness.

I would be inclined to develop management compartments, usually drainage areas, but inclusive of a whole Forest if need be. The basic test would be to identify the site condition and potential and to examine likely revenue flows ,gross and net. If reforestation costs can't be recovered, question exists whether the level of timber management is sound. If the future road network costs, including reconstruction and maintenance viewed for the proposed "timber" area seems high when compared to yield, what would happen if the average site included in the area were raised by reducing the area. If the site if fairly similar, area reductions would not raise potential growth per acre and the picture would not improve.

As to allocation to other uses, there will probably be alot of controversy no matter how done. Nevertheless, the FS needs to look at the existing road system to determine the extent to which it serves other uses. On most Forests, the existing system may adequately meet uses such as hunting, recreation, general protection etc. If added roads are deemed desirable for other uses, the question is whether it would be more cost effective to build a road for that purpose, than to embark on a timber sale which creates site treatment, reforestation and other costs.

The competition that various user groups have for Forest land allocations, makes it likely that each will state a strong case for his use and a weak case for the other uses. Nevertheless, I think that the FS should look to some test Forests and citizens groups, such as the

Committee of Scientists concept, to help design ways to assure the best level of management in a cost effective manner.

Que 9. What factors would I like to see adopted in the new timber sales policy the FS is developing to deal with "below cost" sales ?

Answer

My testimony so far has outlined a number of factors that I think deserve attention. Overall I think these principles should apply.

1. The portion of each national Forest designated for the commercial timber sales program should have a high enough average site to show that at current average per acre net income, the revenues derived will cover the costs of making sales, when sales are viewed as a commercial enterprise. Site rating should encompass Forest Type, Biologic/Economic potential.
2. The timber sale program should carry only costs for making commercial sales and exclude non-commercial sales.
3. Sec. 14(h) should be used for salvage sales since none of the revenue must be used to make 25 % payments and basic sale & road costs are to be covered. Salvage sales are not restricted to "commercial" forest.
4. Non-commercial sales and "free use" should be handled as permits with such cost recovery standards as seem appropriate.
5. If sales are to be subsidized, the extent, cost & estimated duration of the subsidy should be justified.
6. The concept of accountability should apply to all MU activities. Timber should not be singled out.
7. Clear presentations should show how selling timber, if this is the goal on lands that don´t meet the standards in (1) above, is the best alternative.
8. Annual Reports should be organized to show by Forest selected highlite data, with detailed local reports available. More detailed State, Regional & National Data would round out the Annual Reports. These should be designed to be internally useful and thus aid management direction.
9. Various time frames should be used so that recent annual events are viewed against trends.
10. The "Business Unit" concept Dr. Beuter has advanced deserves a testing thru trial units.

D. Community Stability

The questions do not raise this issue, but it is part of the dialog on timber sales issues. I know of no community that really wants stability. Most want growth, high income, low degradation industries. One does not have to look very far to see that in bad times and good, there is a constant change going on. Arizona, Idaho and Zaire are impacted by the reduced demand for copper, a metal which displaced galvanized steel pipe and in turn has been displaced by plastic pipe and silicon chips, to name two examples. Copper firms don´t keep on producing from mines in order to sustain communities.

The issue of Asian hardwood plywood once was a matter of concern. Try today to find a hardwood plywood made with U.S. species ! You will find 99 of 100 panels with paper simulated wood grain on luan, particleboard or hardboard. Try to find a 1/4" panel. For each one you will find 99 at 5/32" or 3mm thickness. And look at the price - $ 8.00 to $ 16.00 for a simulated 4´ x 8´ hardwood panel, and $18.00 to $ 60.00

for a genuine panel. Hardwood plywood mills using US species, if not an endangered species, are growing increasingly rare. The old standard "hardboard"(Masonite), faces real competition from wafer and particle board material. The same is true for softwood plywood as the South has established a commanding position in what was once a coastal Douglas fir region dominant position. Thirty-Five years ago the Southern Pine 1 x 6 green "roofer" lost out to plywood. The growth of the paper industry has been nothing less than phenomenal. Any review of forest products plants would show tremendous changes that have occurred. Monetary policy, tax policy, trade policy and the inventiveness of people, promise us a constantly changing world.

Community stability is in my view just a nice phrase. Even in Sweden, which has a social democracy, change is accommodated and communities are not guaranteed "stabilization".

The May 28 Post reports that Crown Zellerbach is reorganizing into 3 Divisions, (1) paper production, (2) specialty products and (3) a Division that will " liquidate most of Crown's timberlands." We may not agree with their Board of Director's decision, but they have the right to open and close mills, change production goals and liquidate timberlands.

The notion that Federal timberlands can assure the existence of a forest products plant with stable levels of employment is theory not supported by the evidence of what the owners of mills do. Federal accelerated amortization, Capital gains benefits for timberland and low Yield tax rates by a local governments, notwithstanding, owners of forest lands and enterprises are not bound to stabilize any community. The thought that Federal timber policy will do so is a dream rather than a reality. This is not to suggest that conservation is unwise, sustained yield is stupid or multiple-use not beneficial. However, we can't expect a firm to operate a mill when the output can't be profitably sold. Nor can we expect even Crown, which has enjoyed an excellent reputation as a sound forest land manager to refrain from liquidating its timber land if it thinks it is a financially sound course for it to follow.

Thus, Federal timber land should not be expected to assure mills and jobs no matter the costs or dollar losses. However, Federal conservation policy can maintain a healthy forest which will benefit society. It will assure an environmentally sound resource base. This forest will provide material that can be effectively utilized in a competitive economy. Denuded lands and degraded stands won't hold this promise.

The Federal budget has not been balanced since Dwight Eisenhower was President - but in his 8 years he raised the National Debt by $ 16. bil. This $ 2. bil/yr. deficit looks wonderful compared to our current $ 200 bil. annual deficits. Pres. Harry Truman was the last budget balancing President we had. He batted 4 for 7 and actually reduced the National Debt by $ 12 billion when he served.

Deficit forestry helps worsen Federal budget deficits.

****

Note: Documents used are public. Citation & source can be supplied.

Robert E. Wolf, Lloyd Bowen Road, Star Route 2, Box 18 B
St. Leonard Md., 20685-9802 .... 301 586 1767

847

AGRICULTURE APPROPRIATION BILL

HEARINGS

BEFORE THE

COMMITTEE ON AGRICULTURE

397
294

HOUSE OF REPRESENTATIVES
SIXTY-THIRD CONGRESS
SECOND SESSION

ON

H. R. 13679

A BILL MAKING APPROPRIATIONS FOR THE DEPARTMENT
OF AGRICULTURE FOR THE FISCAL YEAR
ENDING JUNE 30, 1915

AND

REPORT ON THE BILL

WASHINGTON
GOVERNMENT PRINTING OFFICE
1914

view in the matter; so that the Secretary never takes any action of that kind without first having the views of the stockmen as to what, in their opinion, will be the effect of the change on their industry.

The CHAIRMAN. Is there anything further, gentlemen?

Mr. HAUGEN. Does that include the owners of small herds as well as associations?

Mr. POTTER. Yes, sir.

Mr. HAUGEN. Is it the policy to approve of the transfer of leases where one sells to another?

Mr. POTTER. No, sir. We do not allow a transfer from one person to another, but where one person succeeds another or buys him out, if he has the necessary qualifications required by the regulations, that is, residence and ownership of ranch property, and buys both the stock and the ranches of the former permittee, we allow a renewal for 90 per cent of the stock. If he only buys the stock, perhaps because of the fact that he has ranches of his own and does not desire to use the other ranches, then we allow a renewal for 80 per cent.

Mr. HAUGEN. I understood you to say they got 50 cents a head and more?

Mr. POTTER. They do in some cases. They do that, however, by virtue of the fact that if the purchaser has the necessary qualifications he may get a renewal for 90 per cent, or if he purchases the stock alone he may get a renewal for 80 per cent. With the assurance that he is going to get a renewal of that 80 or 90 per cent the permittee gets a bonus for the stock because it is going to be grazed on the national forests.

Mr. HAUGEN. The question that occurs to my mind was whether a monopoly or preference was given to one over the other. If the practice is to hand down from one to another that gives him a perpetual lease on that grazing privilege.

Mr. POTTER. However, Mr. Haugen, it would be well for me to mention this: All of these transfers are controlled by maximum limits, and we do not allow a transfer which would tend to monopoly, tend to a consolidation of all of the stock in one holding.

Mr. HAUGEN. The custom is to limit the number of head of cattle?

Mr. POTTER. The custom is to limit the number that any one corporation or person may graze, sir.

Mr. HAUGEN. I would like to have you make this clear in the record, because you know questions have arisen as to that?

Mr. POTTER. If the maximum limit, for example, is 6,000 head of sheep, then we would not allow a transfer of stock to anyone who already had 6,000 head of sheep; and we would not allow the transfer of a permit to anyone who owned less than 6,000 sheep if through the addition of the herd bought he would have more than the maximum limit. In cases where the purchase does not amount to an excess of the maximum limit, however, we allow them to make the transfer.

Mr. HAUGEN. Will you state what the limit is as to the number of cattle and sheep?

Mr. POTTER. It varies according to the requirements and conditions of the forests. On cattle it runs all the way from 300 to 1,500 head and on sheep from 2,400 to 10,000 head.

The CHAIRMAN. If there are no other questions, we are very much obliged to you, Mr. Potter. Now, Mr. Graves, you may proceed.

ADDITIONAL STATEMENT OF MR. HENRY S. GRAVES, CHIEF FORESTER, FOREST SERVICE.

Mr. **Graves**. The only other point I wish to present in my general statement is that last year our gross earnings increased something over $300,000, and the timber sale business in sight indicates that we shall probably be able to keep up an increase from year to year of approximately the same. That is what we hope to do; and if the timber market improves within two or three years we probably can increase that. I speak of this point to show it is our policy to work toward a self-supporting basis—not only for the individual forests but for all of the expenditures of the entire Forest Service. We have the resources and we are ultimately going to be able to meet our expenses.

Mr. **Maguire**. What were the approximate total net receipts for the Forest Service for the past year—grazing, timber, and so on?

Mr. **Graves**. The receipts from timber were $1,341,337; from grazing $1,007,739, and from other sources $118,512.

Mr. **Maguire**. That is not a net receipt?

Mr. **Graves**. No; because if you are going to consider a net receipt I think you would have to deduct the 35 per cent which goes back to the States and the amount used for road building.

The **Chairman**. Do you have any idea when you will reach this self-supporting basis?

Mr. **Graves**. I think we must consider that first from the standpoint of individual forests rather than the national forests as a whole. In order to get a standard of comparison, I have taken as the first standard which I wish to reach what I will call the operating costs of the individual forests. That covers the statutory roll of the men employed on the forests, money expended from the general expenses appropriated for each forest, and the cost of supplies used on the forest, but it does not include the cost of improvements, reforestation, and other special things provided under the special schedules. Considering forest by forest from this standpoint, we have already 44 forests which provide that operating cost.

Mr. **Hawley**. How many forests are there altogether?

Mr. **Graves**. One hundred and sixty-three. We have 18 forests which are primarily protective forests or on which the timber has been destroyed in the past, and which will not cover the cost of operation for a good many years. I have colored those in red on this map. These include the forests of southern California, two in southern Arizona and New Mexico, the Pike and San Isabel, Nebraska and Kansas forests, and those in Minnesota and Michigan, which have been denuded and must be built up. The forests which are all paying operating expenses are colored in blue, and you see their general distribution. The yellow places represent the forests which do not pay expenses now. I have indicated by a figure the year in which we expect they will. If we are able to increase our earnings from year to year, as the applications for timber indicate, we should be able to cover the aggregate cost of these operating expenses in about three years. That is to say, at the present time there is a deficit from that operating cost of only about $800,000. An increase of about $300,000 a year would enable us to meet that, probably in addition to any increased appropriations we might require. There would be, next, the aim to cover all expenses of the national forests, including the cost of road building, trails, reforestation, and special work like land classification. I would like about another three years under this general standard to accomplish that. Then the next step would be to cover the overhead charge, which is the cost of six district forests, with district foresters, inspectors, and other expenses, which would take perhaps two years after that. Then, if the same increase of earnings continues, perhaps three or four years after that we might cover all of the expenses of the service, including the investigational work and other expenses.

The **Chairman.** I want to ask if you can prepare this map for insertion in the record?

Mr. **Graves.** Yes, sir.

(The map referred to will be found on the opposite page.)

Mr. **Hawley.** And this explanatory table that goes with it?

The statement presented is as follows:

Statement showing income from national forests and costs of administration, fiscal year 1913.

Total gross receipts	$2,467,590.07
Total local operating cost of 163 national forests, including salaries, wages, and general expenses	3,258,735.66
Total amount expended on national forests from the special schedules of the appropriation bill, including reforestation, land classification, permanent improvements, investigations, etc	762,943.73
Total cost of the supervision of the national forests in the district offices	719,889.00
Total cost of all work in the Washington office, at the Madison laboratory, on the new eastern forests under process of establishment by purchase, etc	606,757.42
Present deficit below local operating cost of the forests	791,145.59
Present deficit below the total local cost of the forests, including special schedules	1,554,089.32
Present deficit below the total cost of the Forest Service, including the Washington office, research work, etc	2,956,404.96

Estimated period required for the national forests to pay local operating costs.

Forests now paying local operating costs, 44.

Additional forests which will pay operating costs within—

1 year	22
2 years	12
3 years	5
4 years	4
5 years	24
10 years	19
25 years	15
Indefinite	[1] 18

Mr. **Graves.** This would make, as my estimate to cover all expenses (I think a conservative one), 12 to 15 years to make the Forest Service, including Washington office, investigational work, and the entire work which the service might have to do, self-sustaining.

Mr. **Hawley.** You said that two or three years, or four years, and so forth. How many does it add up to altogether?

Mr. **Graves.** From 12 to 15. I make it in round numbers, so as to be on the conservative side.

Mr. **McLaughlin.** I suppose that would depend a great deal on the policy that Congress, in its wisdom or otherwise, may adopt. You have an immense area of practically unexplored forests. It might be thought advisable to have roads, trails, and telephone lines built through there, and it would be to the benefit of those forests to have that done. Of course, an immense amount of money would be spent under that work, but it would ultimately make the forests more valuable and more protected. Of course, the number of years within which you think you can make this a paying proposition would depend somewhat on the policy of Congress as to the course to be pursued in the future?

---

[1] Maintained primarily for protection or largely destroyed through past abuse.

Mr. GRAVES. I am predicating that on the basis of carrying out what work we are now doing, and practically the same standard of expenditures for reforestation and similar work.

Mr. MAGUIRE. You also have charge of the forests in the national parks, like the Yellowstone?

Mr. GRAVES. No, sir; that is under the Secretary of the Interior. I have prepared a detailed statement for each forest, which shows the area and location, geographically, the amount of standing timber, a statement of the administrative work during the last year, the number of permits, the number of timber sales, the timber sale receipts, and so forth, and the reasons for increases or decreases which we have estimated for; so that not only are the changes in the amounts in the individual forests fully explained, together with a description of the forest and the results obtained in our administration, but we give you an idea of the reasons as a justification for the existence of the forests and for the expenditures.

The CHAIRMAN. In a general way, what is the cause for those changes in the amounts of the various national forests?

Mr. GRAVES. Chiefly the shifting of business, and that is more connected with the timber sale work than anything else. When we project a timber sale, it is necessary for us to make an examination of the land and an appraisal of the timber, and where we are dealing with large bodies of timber that necessarily is pretty expensive. We are also entering into some pretty large contracts for timber sales, and the administration of timber sales for which we have already contracted will require some additional funds for scalers and other incidental expenses in carrying out our contracts.

The CHAIRMAN. We would be glad to have you put into the record your detailed statement as to the reason for the changes under the various forests.

The statement is as follows:

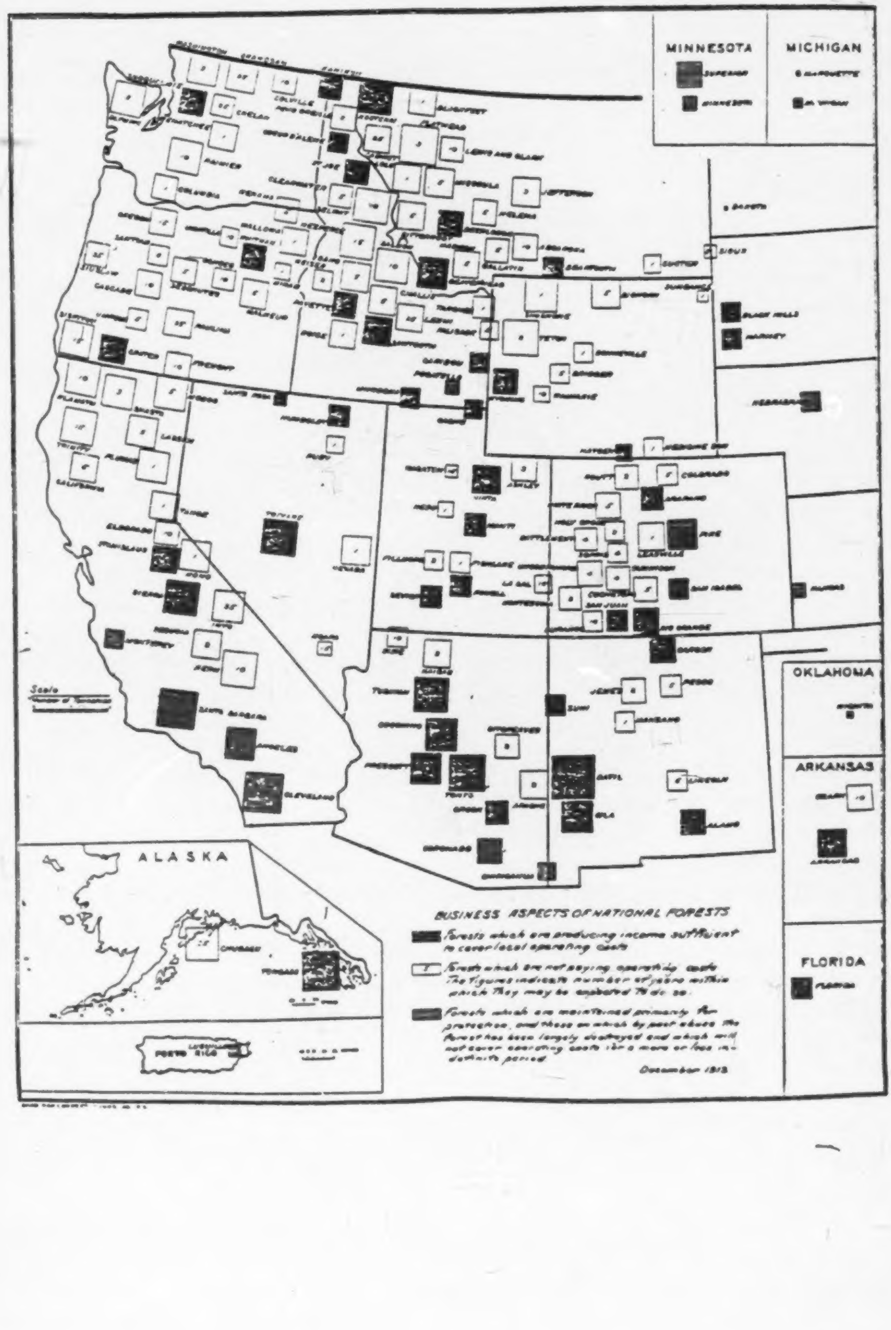
EXPLANATION OF PROPOSED INCREASES AND DECREASES IN ESTIMATES FOR THE NATIONAL FORESTS FOR THE FISCAL YEAR 1915.

Arapaho National Forest, Colo.—A decrease of $6,110 is possible on this national forest on account of the transfer of a $1,200 clerk to the statutory roll and the completion of timber estimates and appraisals on areas where there is a present demand for national-forest stumpage.

Arkansas National Forest, Ark.—A decrease of $1,000 will be made possible by a reorganization of the field force and a simplification of administrative methods.

Ashley National Forest, Utah.—Decrease of $1,408 due in part to the transfer of a clerk at $1,100 to the statutory roll, and in part by retrenchment in incidental administrative expenses.

Bighorn National Forest, Wyo.—An increase of $2,995 is required to provide additional scalers for the administration of a sale of 60,000,000 feet on which it is expected cutting operations will be in progress, together with necessary funds for brush burning and other incidental sale expenses.


MINNESOTA
Superior
Minnesota
MICHIGAN
Marquette
Michigan
OKLAHOMA
Wichita
ARKANSAS
Ozark
Arkansas
FLORIDA
Florida
ALASKA
Chugach
Tongass
PORTO RICO
Luquillo
Scale
BUSINESS ASPECTS OF NATIONAL FORESTS
Forests which are producing income sufficient to cover local operating costs
Forests which are not paying operating costs. The figures indicate number of years within which they may be expected to do so.
Forests which are maintained primarily for protection, and those on which by past abuse the forest has been largely destroyed and which will not cover operating costs for a more or less indefinite period
December 1913

Addition to Summary

Since delivering my testimony to the Committee I received the Forest Service April 18, 1985 publication, Multiple-Use Timber Sale Examples." It is their Feb 26,1985 testimony, enlarged by a third example.

I have prepared a 2 page Critique and analyzed and consolidated their Financial Summaries in their appendix. These showed timber cash flows. I provide totals and averages , show cumulative negative and positive cash flow as well as a table on a per thousand board foot basis. I also show recent timber prices for comparison with those the Forest Service used.

The Forest Service published this because," the whole story was not being presented". The whole story, according to the Forest Service, is a long term, multiple-use one using real field timber sale examples. They point out that long range benefit/cost consideration is the key element in agency planning.

Every National Forest area has a real multiple-use story. The pity is that this booklet fails to tell it for the 3 selected areas.

The publications fails to describe the multiple-use potential of the areas,their present condition, facilities and use levels, expected demand and how an integrated program will develop all the uses. Instead it concentrates on timber sales and does this poorly.

The text is poorly organized and lacks focus. The financial data deals only with timber, omits revenues and costs and fails to show what future forest is planned. Their is no data on the financial aspects of development and maintenance of the planned multiple-uses. There are no summaries of cash and benefit flow and costs.

The examples read as justifications for timber and roads rather than multiple resource management.

The write-up does not present a convincing case that consideration was given to the relative value of the resource and that the combination of uses selected give the appropriate dollar return and unit output for all resources. The cursory treatment given other resources, including such points as, (1) their status, (2) use levels, &l (3) costs to meet these needs is very distressing.

I wholeheartedly agree that it is a Forest Service obligation to tell the whole story. It is most unfortunate their booklet fails to do so.

A Critique of the Forest Service Issued, "Multiple-Use Timber Sale Examples", by Robert E. Wolf, St Leonard Md.

A Supplement to Testimony June 6, 1985 before the Subcom. on Forests Family Farms & Energy

In this 89 page publication, issued April 18,1985 , the Forest Service says this is published because "As the timber sale economics issues emerged, it was clear that the whole story was not being presented as to Forest Service management activities". The whole story, the FS says includes multiple-use objectives and long-term rather than an annual snapshot.

The Forest Service says that " The whole story is best told with real field examples", using timber sales over 50 years and quantified project costs and benefits.

Unfortunately, this publication fails to accomplish its purpose.

The Forest Service booklet suffers from poor organization, inconsistent and poorly displayed discussions and financial analysis, failure to show the standards used and the basis for alternatives and proposed actions, weak reproduction of maps and a hard to follow format.

There are 3 "project areas" described with separated Executive Summaries", Narratives and Appendices which consist of these pages:

AREA	Sumry.	Nartiv.	Appendix				
			Picture	Map	Table	Text	Total
1.Deer Peak,Lolo NF Mont.	1	4	9	4	2	2	22
2.Ophir Mt., W.Riv.NF CO.	1	6	22	4	7	5	45
3.Up. Squaw, Nezperce NF ID	1	3	8	3	5	2	22
Total	3	13	39	11	14	9	89

Over 40 % of the booklet is full page uncaptioned pictures.

Cash flow, discounted present net value, and discounted cash flow, are used but not fully defined nor displayed in detail or summary. The revenues and costs included and excluded are not clearly delineated. There are 3 "alternatives", (1) single purpose, (2) no action and (3) proposed action, but 2 cases discuss (1) & (3) while one uses (2) & (3).

Very few numbers are totalled, averaged or explained and basic facts are not clearly set forth. For example:

1. Acreage by site, age class, volumes, species are not shown. Com. forest, other forest and non-forest acres not delineated.
2. Miles of existing road and condition, versus new road is not explained.
3. Data on present recreation facilities, streams & impoundments,game levels, range, etc., as well as use levels and needs are not set out.
4. Recent timber cut and comparable species prices are not shown, nor regeneration methods,success and costs.
5. The relation of the project areas to their Ranger Districts is not clear. By detailed examination one can glean the following:

Area	Ranger District			Project Area			Pct of
	NF Land	Pri. Land	Total	NF Land	Pri.Land	Total	R.D.
Deer Peak	360	140	500	?	?	9.0	3 %
Ophir Mt.	350	?	?	6.8*	?	?	2 %
Up.Squaw	343.8	?	?	9.6	?	?	3 %

* called "forested land" p 11

6. There are differing summaries of the various financial estimates which make it confusing to determine how they are consistent, where and how discounted versus current dollars were applied and how to estimate relative comparability.

7. Courses of action are limited. Single purpose is used in (1) & (3), but current law prevents this. No alternatives propose different levels of intensity and emphasis for multiple-use. Only Case (2) appears to use a "no action" alternative. This seems inconsistent with the description of the uses other than timber for all areas.

8. A check in other sources on average prices paid for timber sold and cut, shows that values used substantially exceed recent levels, while lower than normal costs appear to have been used, which are shown at stable levels thru the 5 decade period.

9. The Tables labelled "Financial Summary" (A-14, B-34 & C-13) show by decade:
   (a) Timber Value
   (b) Costs
      (1) Timber Sale
      (2) Support
      (3) Other Timber(reforestation)
      (4) Roads
      (5) Total
   (c) Net

However, the 50 year totals and averages are not shown, and the cumulative positive or negative cash flows are omitted. This is especially significant because in Case (1) it is 33 years until costs to date are recaptured, in case (2) they are never regained and in Case (3) it takes 26 years to recapture costs to that date.

10. No data displays unit revenues or costs, i.e., per MBF, per acre or for roads, per mile. Further there is no data on maintenance costs to operate the proposed multiple-use program over the 5 decade period. For example, In Case (1) average timber values are computed to be $ 148.00/Mbf but average Montana recent prices are $ 40.00/M bf with 1984 Lolo NF bid prices @ $ 17.00/Mbf. In Case (2) it appears that average timber values of $ 38.00/Mbf were used but in Colorado $ 10.00/M bf is the recent State average for timber sold and cut. To suggest that insect attacked Lodgepole pine will sustain the assigned $ 38.00/Mbf value is not substantiated.

There are numerous other shortcomings that exist. These cited are are sufficient to show that the Forest Service failed to lay out the whole story in a way that creates public understanding. It does not present a convincing case that either the best conservation or financial alternative under a multiple-use strategy has been selected. The discussion stresses timber and possible losses if not cut as desired but treats the other uses in a cursory manner which does not show how their claimed expansion will occur. The write-up implies that these "benefits" are automatically gained by constructing roads and cutting timber. Nor is the time frame for their need versus realization treated at all. The timber volumes cut, when annualized, are very small, thus their role in a larger supply picture is not focused. There is no discussion of site and future timber values and the cost to secure them. Telling the whole story is a Forest Service obligation. This publication misses doing what it says it set out to do.

****

Summary of Financial Summaries, Mult-Use Tbr Sales, For. Svce 4/18/85

I A. Deer Peak , Lolo NF, Mont., Total Dollars From Appendix A-14

Period	1-10 yrs	11-20 yrs	21-30 yrs	31-40 yrs	41-50yrs	Tot/Ave
			thousand dollars			
1. Tbr. Value	1275	230	2670	1406	3796	9377
2a. Tbr Cost	899	13	1085	25	1176	3198
b. Road Cost	1785	0	715	0	572	3072
c. Total Cost	2684	13	1800	25	1748	6270
3.Net (1-2c)	- 1409	+ 217	+ 870	+ 1381	+ 2048	+ 3107
4.Cum.Dec.Net	- 1409	- 1192	- 322	+ 1059	+ 3107	
5.First Profit				Year 33		

I B. Per Thousand Board Feet, Calculated

Tmbr Vol.MBF	16,400	2,900	18,600	5,300	20,200	63,400
1.Est. Rec	$ 77.74	$ 79.31	$ 143.55	$ 265.28	$ 187.92	$ 147.90 (a)
2c.Est.Cost	$ 163.66	$ 4.48	$ 96.77	$ 4.72	$ 86.53	$ 98.90
3. Est. Net	- $ 85.92	+$ 74.83	+$ 46.77	+$ 260.57	+$ 101.39	+$ 49.90

II A. Ophir Mtn, White River NF CO, Total Dollars from Appendix B-34

Period	1-10 yrs	11-20 yrs	21-30 yrs	31-40 yrs	41-50 yrs	Tot/ Ave
			thousand dollars			
1. Tbr Value	207	6	212	212	11	648
2a.Tbr.Cost	161	61	66	204	11	503
b.Road Cost	207	22	56	75	6	366
c.Total Cost	368	83	122	279	17	869
3.Net (1-2c)	- 161	- 77	+ 90	- 67	- 6	- 221
4.Cum. Dec.Net	- 161	- 238	- 148	- 215	- 221	
5. First Profit						NEVER

II B. Per Thousand Board Feet , Calculated

Tmbr Vol.Mbf	5,130	500	5,630	5,630	262	17,152
1.Tbr. Val.Mbf	$ 40.35	$ 12.00	$ 37.66	$ 37.66	$ 41.99	$ 37.78 (b)
2c.Est.CostMbf	$ 71.73	$ 166.00	$ 21.67	$ 49.56	$ 64.89	$ 50.66
3.Est.Net Mbf	-$ 31.38	- $ 154.00	+$ 15.99	-$ 11.90	-$ 22.90	-$ 12.88

III A. Upper Squaw, Nezperce NF.,Idaho Total Dollars From Appendix C-13

Period	1-10 yrs	11-20 yrs	21-30 yrs	31-40 yrs	41-50 yrs	Tot/Ave
			thousand dollars			
1. Tbr.Value	716	10	824	541	1442	3533
2a. Tbr Cost	295	14	204	163	238	913
b. Road Cost	813	82	24	266	37	1222
c. Total Cost	1108	96	227	429	275	2135
3. Net (1-2c)	- 392	- 86	+ 597	+ 112	+ 1167	+ 1398
4. Cum. Dec. Net	- 392	- 478	+ 119	+ 231	+ 1398	
5. First Profit			Year 26			

III B. Per Thousand Board Feet, Calculated

Tmbr Vol. Mbf	10,217	849	10,255	8,457	11,817	41,595
1.Est Rec.Mbf	$ 70.08	$ 11.78	$ 80.35	$ 63.97	$ 122.03	$ 84.94 (c)
2c.Est CostMbf	$ 108.45	$ 113.08	$ 22.14	$ 50.73	$ 23.27	$ 51.33
3.Est Net Mbf	-$ 38.37	-$ 101.30	+$ 58.22	+$ 13.24	+$ 98.76	+$ 33.61

Average Value Tbr.Cut	(a) Montana,	(b) Colorado,	(c) Idaho	(a) Bid on Lolo NF
6 Years - 1978 thru 1983	$ 41.02	$ 10.62	$ 37.44	n.a.
Most Recent Year 1984	$ 39.70	$ 9.15	$ 34.54	$ 17.00

Note: Totals and Averages, plus lines 4 & 5 of A tables, and all of B Table calculated by R.Wolf. Average Timber Values from FS Annual Rpts incl. NF Fund + KV deposit for Tbr.Cut, except Lolo NF which is Stat. Hi. Bid. Line 2a. includes Timber Sale, Support and Other Timber Costs per each Appendix.

Testimony Before the
Subcommittee on Forests, Family Farms, and Energy
of the
Committee on Agriculture
U.S. House of Representatives
on
The Economics of Federal Timber Sales
Washington, D.C, June 6, 1985

Mr. Chairman and Subcommittee members, my name is John H. Beuter. I am Professor of Forest Management and Associate Dean at the College of Forestry, Oregon State University.

I was asked by the Subcommittee staff to appear today to summarize a report on federal timber sales I completed earlier this year for the Congressional Research Service (CRS), and to comment on issues related to below-cost Federal timber sales.

My 140-page report is available through the Environmental and Natural Resources Division of CRS.[1] For the purposes of this hearing, I submit the following Digest of the report from my original manuscript (pages iii-xi), which may differ slightly from the published CRS report because of editorial changes. The latter was not available to me when I prepared this testimony.

Following the Digest are my comments on the nine issues on pages 4-6 of the Charter for these hearings.

DIGEST

This report provides an overview of the Federal timber business: how it has evolved; the management context for timber sales; how timber is sold; the costs and benefits of timber sales; and, the implications of the Federal agencies adopting a more businesslike approach to timber management. The analysis in each section of the report focuses on the national forests; a separate section compares the BLM with the Forest Service.

IMPORTANCE OF FEDERAL TIMBER

The Federal Government has been been in the timber business for 85 years. Since 1899 the Forest Service and Bureau of Land Management have sold over 456 billion board feet of timber having values totaling $20 billion. Even in real dollars, over half the timber sale value was generated in the past 10 years.

Despite the harvesting and untold losses of timber on Federal lands to fire, disease and insects, the Government still holds an inventory of merchantable timber in excess of a trillion board feet--only two percent less than it had in 1950.

---

[1] Beuter, John H. 1985. Federal timber sales. Report CRS-ENR-85-69. Congressional Research Service, Library of Congress, Washington, D.C. 20540.

THE EVOLUTION OF FEDERAL TIMBER SALES

The first Forest Reserves were set aside in 1891. Timber sales were authorized in 1897, and the first sale was made in 1899.

The main purpose of early timber sales was to encourage the settlement and development of the West. Legislation authorized the use of timber receipts to make payments to local Government in lieu of taxes, to build roads and trails, and for reforestation.

By the end of the Great Depression, the management emphasis for the Federal forests began to shift from economic development to community stability. Legislation focused on the sustained yield of timber and other forest resources. Multiple-use planning became an accepted concept. Log exports from Federal land were restricted. By 1969, the annual harvest from Federal lands reached 13 billion board feet.

The passage of the National Environmental Policy Act of 1969 (NEPA) shifted the focus to environmental protection. Environmental impact statements became a part of forest planning. Legislation passed in 1974 (RPA) and 1976 (FLPMA and NFPA) was to change significantly the way forest management plans are prepared. This period also brought forest management into the courts.

The focus is now on cost-effectiveness. Economics became an explicit criterion for the management of timber on the national forests with the passage of NFMA in 1976. Several recent studies have raised questions about the costs of Federal timber sales.

PLANNING FOR TIMBER SALES

Federal timber sale planning has evolved from a focus on cutting existing stands of timber to one insuring that harvest schedules are sustainable for long periods into the future. The harvest schedules are subject to constraints that insure environmental protection and achievement of objectives for managing non-timber forest resources.

Priorities for individual timber sales vary by forest and location. In the early days sales were made at the request of prospective purchasers. At times, very large sales were made to encourage the development of transportation systems and industrial development. Today, the priorities reflect the value of the timber, the need for forest access, the desire to maintain community stability, the reduction of forest waste and hazards, and salvage of damaged timber.

It is estimated that timber sale planning costs in 1983 were $144 million, or about $13.00 per thousand board feet.

FOREST ROADS AND TIMBER SALES

From FY1979 through FY1983, the Forest Service spent an average of $417 million per year on road construction and reconstruction, or about $38 per thousand board feet of timber sold. Adding road maintenance and general administration brings it to about $47 per thousand board feet. If all road-related costs, including maintenance, were reflected in the Forest Service budget, they would comprise 60 percent of the expenditures for the timber sales program. Although most of these costs are charged against timber sales, the roads serve many forest uses.

It is difficult to track road-related costs on the national forests because over half of them are off-budget, i.e. the roads built and maintained by timber purchasers as part of timber sale contracts. The Forest Service accounting system is inconsistent in handling road costs. At times purchaser-built roads are included as benefits instead of costs, as if the timber traded for the roads had no value. The agency also vacillates between expensing roads against the timber sales that paid for them and apportioning road costs against other timber sales and forest uses that benefit from them. An example of inconsistency appears in the FY1983 annual report, where the Forest Service charged only 10 percent of the FY1983 road costs against FY1983 timber sales, but did not adjust costs from previous years accordingly.

APPRAISALS AND BIDS

The Forest Service appraises timber by working backward from the selling value of end-products it expects will be made from the timber. After all costs and an allowance for the purchaser's profit and risk are deducted, the residual, if any, is the stumpage value. If the calculated stumpage value is below a base rate established by the agency as a minimum it will accept, the base rate becomes the advertised rate for the timber.

The Forest Service appraisal process is complicated by purchaser credit for roads and other cost allowances in the appraisal that are really purchases of land management services. Conclusions about the appraisal system and bids are:

1. Appraisals do not necessarily reflect what the timber is worth because they reflect the purchase of land management services as well as the sale of timber. Appraisal adjustments to base rates cause distortions in the relative value of individual species.

2. Appraisals are not concerned with a fair return to the Government for its timber. Base rates are arbitrary and do not cover the costs of making timber sales, much less the costs of growing timber. The initial focus of the appraisal is to provide a fair return to the purchaser, but even that is compromised when adjustments to base rates are necessary.

3. Advertised rates and bids do not necessarily reflect what will be paid for the timber. The amount paid for the timber is unknown until the timber has been removed from the woods and measured. Amounts paid can differ from

amounts bid when volume estimates are wrong, when bids are skewed among species, and because of stumpage rate adjustment and discounts.

4. The Forest Service appraisal procedure is complex and not clearly worth all the effort that goes into it. The appraisals do not insure that the Government receives a fair return for its timber and often have little relationship to the value of the timber to purchasers. The procedure is a complicated way to determine a minimum bid rate. On the positive side, appraisals provide useful cost estimates for other analyses such as this one.

A detailed analysis of the net benefits from three timber sales demonstrated that advertised values would have to be higher than base rates to cover Forest Service costs. There is no way to estimate whether sales will provide benefits or losses until the high bid is determined. Because of the way purchaser road credits are handled, it is possible within a certain range of bids for the net benefits to the Government to decline as bids increase.

BELOW-COST SALES, DEFICIT SALES, NET BENEFITS AND CASH-FLOW

An analysis distinguished between below-cost sales and deficit sales and shows the net benefits and cash-flow for national forest timber sales made in FY1981 and FY1982 in Regions One through Six. Those two fiscal years were selected because they reflect a range of timber bid values from optimism to pessimism about wood products markets.

Below-cost sales are ones that don't cover the Government's timber sale costs. Deficit sales are ones with negative appraised values for stumpage. The latter are not necessarily below-cost sales.

In FY1981, 30 percent of the timber sales in Regions 1-6 were deficit sales; in FY1982, 47 percent were. Virtually all sales in the Rocky Mt. (R-2) and Intermountain (R-4) regions were deficit in both years. Surprisingly, road costs contributed to only 20 percent at most of the deficit sales in the two years; almost half the deficit sales were inherently deficit--they didn't have enough intrinsic value to cover the sale-related costs and the purchaser profit margin.

The analysis of apparent net benefits from all timber sales in the two years showed that the Rocky Mt. Region (R-2) was the only one not to provide positive net benefits in either year. Net benefits were negative also for the Intermountain Region (R-4) in FY1982. Overall, the apparent net benefits for all six regions dropped from $1.2 billion in FY1981 to $261 million in FY1982. The FY1981 figure is likely an overestimate because of contract defaults and buy-backs under the timber relief bill.

When only deficit sales were considered, the pattern of net benefits among regions was similar to that for all sales. The apparent net benefits from deficit sales was $202 million in FY1981 and $56 million in FY1982. Again, the FY1981 figure is qualified because of defaults and buy-backs.

The analysis of cash-flow to the Federal Treasury showed different results. The Pacific Northwest (R-6) was the only region to have a positive cash-flow in FY1982, and it was enough to yield a positive cash-flow of $29 million for all regions combined. Deficit sales in FY1982 had a negative cash-flow of $94 million for all regions combined, compared to a positive cash-flow of $50 million in FY1981.

A historical comparison was made to determine how much payments have differed from bids. Payments received for the 377 billion board feet of national forest timber sold over the past 85 years were 94 percent of the bid values. The volume cut was 97 percent of the volume sold.

THE BUREAU OF LAND MANAGEMENT: A CONTRAST

There are significant differences in how the BLM and Forest Service appraise timber and sell it. The BLM uses different assumptions when measuring timber so its board foot volumes for a given tract will differ from those of the Forest Service. BLM timber is sold "lump-sum"--the total amount bid is the total amount paid regardless of the actual volume removed and its distribution among species. The BLM does not pay purchasers to build roads--they are expected to bid to compensate for their costs of road construction, as well as costs for other land management services required in the timber sale contract. The BLM does not have a reforestation fund comparable to the K-V fund of the Forest Service. Its costs are paid from appropriations.

As was the case for the Forest Service in the Pacific Northwest (R-6), the apparent net benefits and cash-flow from the BLM's O&C sales in western Oregon were positive in both FY1981 and FY1982.

A BUSINESSLIKE APPROACH TO FEDERAL TIMBER MANAGEMENT

The Forest Service defends itself against criticism about below-cost sales by pointing out the multiple benefits from forest plans and the role that timber sales play in achieving the objectives of the plans. It is contended that it is more appropriate to address costs and benefits at the level of forest plans than it is at the level of individual timber sales.

The conflict about below-cost sales boils down to two interrelated areas of disagreement: the extent to which economics should be used to define the timberland base; and, the extent to which timber sales should be used to finance development of the national forests and community stability. Should land be in the timberland base if it is not economic to grow timber on it? Are some below-cost timber sales made primarily to finance road construction and provide employment and in-lieu payments for local communities?

A businesslike approach to timber management would separate the economically viable part of the Federal timber business from the part that is managed primarily to achieve social welfare objectives. It is aimed at the post-planning period in which the land available for timber production has been determined in the context of all forest objectives. It is reasonable to expect that land to be managed efficiently.

It is suggested that accounting and organizational changes are needed to encourage cost-effective management of economically suitable timberland on the Federal forests. A proposal is made to establish timber business units that would be self-sustaining in addition to providing returns to the Federal Treasury. The objective for a unit would be to maximize net returns to the Treasury over time. Unit managers would be expected to justify economically all investments and to control costs. Cash reserves should be available to cover operating costs over periods of fluctuating cash-flow. Authority to borrow Government funds should be available up to the unit's ability to repay loans at appropriate rates of interest. Unit managers should be rewarded for superior performance and inferior performance should result in sanctions. Performance standards should be tailored to the capability of a unit to grow timber and its situation with regard to markets.

Areas requiring substantial subsidies to produce timber should not be made timber business units. If timber is to be produced on such areas, it should be under an organization structure and goals that reflect the social welfare orientation implied by the subsidies.

It is timely to consider timber business units because Federal timber sale objectives related to forest and regional development are rapidly becoming obsolete. Soon the Federal forests will be fully roaded. Their influence on the development of communities and local economies is negligible in an age of mass transportation and electronic communication. Even their influence on community stability is questionable.

Some Federal timberland is among the best in the world. Once the base of timberland that is available, capable and suitable to produce timber is determined in the forest plans, it would be wasteful to manage it inefficiently. Timber business units would provide structure, incentives and accountability needed for cost-effective management and the achievement of the full potential for timber production on Federal timberlands.

COMMENTS ON THE ISSUES IN THE HEARING CHARTER

These comments pertain to the nine issues that appear on pages 4-6 of the hearing charter. I use a short-hand reference to them.

1) Define below-cost sales. What are the implications of the definition?

There is no universally accepted definition of below-cost timber sales. It is implied they are sales from which the revenue to the U.S. Treasury is less than the cost obligation for the Treasury because of the sales. The costs and benefits to include in their determination are debatable. Most analyses of below-cost sales have included the direct costs associated with making and administering the timber sales, including road construction, reforestation, and other land management costs in the sale contract, and payments to counties in lieu of taxes. The revenues are usually estimated from bid values. Excluded are possible indirect benefits such as enhancement of non-timber resources and socio-economic stability, and possible indirect costs such as environmental degradation and the opportunity cost of resource options foregone because of the timber sale.

It seems most logical to determine whether a sale is below-cost by comparing the final payments from the sale with costs directly related to the sale. This would require separating out costs related to other resources objectives that would not have had to be incurred to make the timber sale. There is insufficient accounting information available to do this, and it is not certain whether it is even practical to do it. This is an issue being investigated at the present time by the Forest Services and others.

The number of below-cost sales and whether they are a policy concern will certainly vary with how they are defined.

2) The Forest Service argues that below-cost sales are not a major policy concern.

The issue is whether the Forest Service is making money on timber sales, i.e. is it in the timber business? When money is routinely lost on timber sales, that is either bad business, or it has to be argued that the Forest Service is in some other kind of business that is being subsidized through the timber sale program. Then the question becomes whether the other business is an appropriate one for the Forest Service, and whether the timber sale program is the most efficient and effective way of financing it.

A review of the laws pertaining to Federal timber sales makes it clear that Congress intended the timber sale program to be a vehicle for the accomplishment of objectives beyond making a profit from the timber business. Road construction and maintenance, site rehabilitation, reforestation, environmental enhancement, forest development for non-timber resources, and generous payments to local government in-lieu of taxes have all been explicitly authorized by Congress for accomplishment via timber sales. The Congress has also directed that the Forest Service address broad social welfare objectives through comprehensive planning under RPA.

Critics contend that below-cost sales are indicative of a misallocation of resources. In some cases, the sales indicate costs inflated by sale requirements that are neither necessary nor cost-effective (an industry argument). In other cases, they indicate that timber management is being applied in areas where it is not economical, and where perhaps it might be better to manage for another resource, or preserve the area as is (an environmentalist argument).

In either case, it would seem that below-cost sales are a major policy concern. However, it is not clear whether the concern is primarily that of the Forest Service or of Congress. The Forest Service contends that it is carrying out the intent of Congress. By these hearings, it is evident the Congress is concerned with how its intent is being interpreted and implemented.

3) Are below cost sales primarily an accounting problem?
If not, what creates them?

Below-cost sales are not an accounting problem per se, although the accounting system makes a difference in whether they can be identified and monitored. It all depends on how they are defined.

Regardless of how they are defined, below-cost sales exist and are an integral part of some forest plans. The Forest Service finds itself in a difficult situation. In some areas, community dependence on timber sales has been fostered by earlier forest development objectives, and that dependence is factored into RPA planning as a socio-economic welfare concern. It may turn out that subsidized (below-cost) timber sales are the only way the agency has to deal with that concern so they they become part of the forest plan.

Even if not justified by forest plans, below-cost sales can occur because the Forest Service does not include its costs of planning, preparing and administering sales nor payments to counties in the minimum price it will accept for a timber sale. If bids are not high enough to cover these costs, the sales are below-cost. Again, whether all those costs should be considered is a question of definition.

4) Can a better cost accounting system
help resolve the below-cost sale issue?

A better accounting system won't resolve the issue, but it would help the Forest Service monitor costs and returns, which in turn might help to avoid excessive costs and avoid uneconomic timber sale programs where they aren't warranted by non-timber benefits. The Forest Service currently does not provide costs and returns for individual timber sales nor for timber sale accomplishments in a given year. The annual report shows revenues from sales up to five years in the past, while the costs are for sales that will be harvested up to five years in the future. It is not possible to determine whether money is being made or lost on a given sale or group of sales. All that can be monitored is the average performance over a long period of time.

The agency should be able to determine whether it will make money on the next timber sale to be made. It should be able to forecast receipts and continually monitor whether accomplishments match forecasts, and what the relationship is between bids and receipts. It should be evident how much is being spent for road construction and maintenance, and other land management services, some of the costs of which are now off-budget and out of sight and reflected only in lower timber receipts to the Treasury. I'm not sure whether a new accounting system is required, or just better use of the one they have.

5) Should NFMA, Section 6(k) economic suitability
be considered for individual timber sales?

It all depends if the Forest Service is in the timber business or some other business--see comments under number 2 above. If timber management is not economically justified on a given site then timber management activities if carried out would have to be justified for another purpose. The issue is to make explicit the other purpose and show that the timber management subsidy is the best way for achieving it.

It is may be justifiable to average economically unsuitable lands into management units for timber production purposes. Sometimes timber management may not yield positive dollar returns, but it could be the "least loss" alternative. For this reason, it can be argued that every timber sale should not be expected to meet Section 6(k) suitability.

6) Is the land management planning process the appropriate forum for resolving the below-cost sales issue?

The Forest Service contends that below-cost sales are warranted in some cases to achieve non-timber resource objectives or broader socio-economic objectives. The planning process is the forum for documenting the validity of those objectives and the use of timber sales as the medium for their achievement. The planning process will help resolve the below-cost sale issue to the extent that below-cost sales are justified by the process.

On the other hand, the planning process can exacerbate the issue by assuming that timber sales are the best way to achieve certain objectives. For example, the process may have a built-in link between road construction and timber sales. If more roads are needed for multi-resource development that may lead to the conclusion that more timber sales are needed, even if the sales are not economical at face value. Perhaps the roads would be better financed by appropriations or user fees.

7) What is known about non-timber benefits and non-cash costs associated with timber sales and road construction?

A well planned road network is essential for forest management, forest protection, and to provide access for forest users of all types. As early as 1913 Congress recognized the need for Federal forest managers to have flexibility to develop access as needed when it authorized the use of 10 percent of forest receipts to construct roads and trails (Act of March 13, 1913; Ch. 145, 37 Stat. 828). In addition, it became customary to require road construction as part of a timber sale contract thereby reducing the appraised timber value by the cost of the road. This practice was officially recognized by the Roads and Trails Act of 1964, as amended, which permitted the Forest Service to trade timber value for roads--the purchaser credit program (16 U.S.C. 532-538).

There is no denying the multiple-use benefits of roads, and the advantages of being able to trade timber for roads instead of relying on the uncertainties of road financing through the annual Federal appropriations process. However, critics contend that the Forest Service road construction program has significant economic and environmental costs and disadvantages that are not being addressed by the Forest Service or Congress. Who monitors the cost-effectiveness of the road construction and maintenance program? Are road standards higher than needed? Are road maintenance standards higher than warranted by usage? Are long-term economic and environmental costs ignored in planning road networks? Are below-cost timber sales being used to finance roads that are useful mainly to make more below-cost timber sales? Are timber sales used to accelerate road construction to preempt areas from consideration for wilderness designation?

Examples can be found that warrant a "yes" answer to each of these questions. Couple that with the fuzzy accountability the Forest Service has to Congress on road costs (purchaser-credit roads are off-budget and prior to 1977 the Forest Service didn't even have to estimate the amount of timber value they expected to trade for roads each year), and confusion in the Forest Service about how to account for road costs and road asset value (documented on pages 47-49 of my CRS report), and it is no wonder that there is public concern and confusion about the costs and benefits of Forest Service roads. The road issue is certainly relevant to the issue of below-cost timber sales.

8) Are road construction costs the overriding reason for below-cost sales? How should they be allocated?

When road construction costs are paid with timber value on a particular sale the road is expensed against that sale *de facto*. The Forest Service usually reports road costs when the year they are incurred, although in its annual report for FY1983 it charged only 10 percent of the year's road construction costs against that year's timber sales.

If sale value is high enough to cover the road costs it certainly is convenient to expense the road and forget it. If sale value is not high enough to cover the road cost then the sale is below-cost and the allocation of the road cost becomes an issue. Did the road cost drive the sale to below-cost status? If so, shouldn't only a portion of the road cost be allocated to that particular sale because the road will be used also for other timber sales and other forest uses?

In my CRS analysis I analyzed deficit sales to determine what drove them deficit. A deficit sale is one for which the appraisal does not show a profit margin for the purchaser of at least 75 percent of normal. A deficit sale is not necessarily a below-cost sale, but if sold at or near the advertised value it is very likely to be one. The bulk of the deficit sales in the western regions in FY1981 (44 percent) and FY1982 (49 percent) were inherently deficit, that is, they had negative appraised values even without including the road costs. Only 20 percent in FY 1981 and 11 percent in FY 1982 were driven deficit by road cost. This lends support to the Forest Service contention that road costs are not the overriding reason for below-cost sales.

In theory, road costs should be apportioned to specific timber sales and other activities that benefit from the road. This is easier said than done and it might not be worth the effort to try to do so. It is more likely that road costs should be treated as general overhead and paid with percentage allocations to various user categories comensurate with relative benefit. At minimum there should be cost control accountability to insure that additions to road networks and road maintenance schedules are cost-effective in terms of anticipated benefits. Incremental roading costs should be incorporated into comprehensive forest planning, including the analysis of economic suitability under Section 6(k) of NFMA.

9) What factors should be considered for new policy to guide timber harvesting on the national forests?

If successful, land use planning on the national forests should clearly identify land to be devoted primarily to timber growing. I propose that the timberlands be analyzed further to determine blocks (administrative units) on which it is expected the timber business can be at least self-sustaining economically. Those blocks should be managed as timber business units with cost controls and manager accountability commensurate to a well-run private enterprise. The goal should be to maximize returns from timber production subject to constraints related to protection of the environment and other forest uses, and constraints on capital availability related to the anticipated returns from timber production.

It is not anticipated that management practices on the timber business units would differ significantly from those on well-run private industrial forests that are subject to the constraints of comprehensive forest practices laws such as those in Oregon and California. The point is that investments and expenditures would be justified at the margin and the Government can expect a reasonable rate of return from its investments in forest management.

Timber may be produced also on areas that require substantial subsidies in order to do so. The subsidies would be justified by the production of benefits besides timber, i.e. nontimber resources and socio-economic welfare. Below-cost sales would not be unexpected in such areas and would be better understood in terms of the objectives to be achieved. These areas should not be confused with timber business units.

Implementation of the concept of timber business units would not be easy. It would require changes in organizational structure and attitudes. Some believe it impossible.

On the other hand, is it justified to manage some of the best timberland in the world without some concept of cost control and a goal to achieve the highest net benefits possible from timber production?

I commend the Subcommittee for its attention to these important issues and thank you for the opportunity to testify.

Yale University *New Haven, Connecticut 06511*

SCHOOL OF FORESTRY AND
ENVIRONMENTAL STUDIES
GRADUATE STUDENT

Sage Hall
205 Prospect Street

STATEMENT OF V. ALARIC SAMPLE, JR., YALE UNIVERSITY, SCHOOL OF FORESTRY & ENVIRONMENTAL STUDIES, BEFORE THE HOUSE AGRICULTURE COMMITTEE, SUBCOMMITTEE ON FORESTS, FAMILY FARMS AND ENERGY

JUNE 6, 1985

Mr. Chairman, I thank you for the opportunity to address you and the other members of this Subcommittee today on the subject of below-cost timber sales on our national forests. Prior to beginning my current doctoral studies in the field of forest policy development and economics, I was the Forester for The Wilderness Society in Washington, DC. While in that capacity I authored a report entitled "Below-Cost Timber Sales on the National Forests", published by The Wilderness Society in July 1984. A copy of that report is before you and has been submitted for the record. I am a forester by profession and have served in timber management planning for the U.S. Forest Service and for major timber corporations in both the U.S. and Europe.

MISCONCEPTIONS ABOUT USING A CASH FLOW APPROACH FOR EVALUATING THE ECONOMIC FEASIBILITY OF TIMBER HARVESTING

In the year since the release of the TWS report, it and a number of other studies which used a "cash flow" approach to identify areas with a history of below-cost timber sales have been subject to a number of misinterpretations. While I cannot speak for the authors of other studies, I would like to reiterate and clarify certain aspects of my report for the Subcommittee.

Cash flow analysis is not a substitute for NPV analysis

First, it was explicitly noted on page one of the TWS report that evaluating the economics of the timber sale program through an examination of past cash flows is "...not a substitute for more sophisticated techniques, such as net present value analysis..."[1]. Nowhere did the report advocate that the national forest timber program be evaluated on a cash flow basis. The methods currently used by the Forest Service to determine economic suitability using net present value (NPV) analysis are highly disputed and will likely be subject to litigation. Pending agreement on the methods to be used in NPV analysis, a cash flow analysis can point out areas and conditions in which below-cost timber sales may be a problem. In the meantime, cash flow studies are a useful interim guide and will continue to be useful in focusing in on areas where further detailed analysis is warranted.

Too much attention has been focused on the precise numbers displayed in my report. Given the weaknesses of the Forest Service accounting system on which it is based, no cash flow type of analysis is that precise. The numbers are there merely to serve as indicators of the general magnitude of timber costs relative to receipts. I would agree with the Forest Service ststement that below-cost timber sales are not "primarily an accounting problem". Changes in how the costs and benefits are accounted for will not alter the reality of the situation. The value of an improved accounting system is that it will provide a comprehensive method for assessing the costs and receipts associated with the national forest timber program -- uniformly across all national forests and consistently over time. This will be useful to both Congressional and agency decision-makers in identifying important economic trends both between geographic regions and over periods of several fiscal years.

Future values and multiple use values of roads are considered

A second misconception is that the TWS study did not consider either the use of forest roads for purposes other than timber management or the value of roads for use over more than just the current year. Attributing a large proportion of the road costs to timber alone and requiring one year's timber receipts to cover such investments with a lifetime of several years, it is claimed, overstate the costs of timber management and give a false impression that timber is consistently being sold below cost. I will briefly reiterate the consideration that was given to both these factors.

It has been argued that roads serve many purposes other than timber and that only a small portion of the road costs should be attributed to the timber program. Others have argued that most of the 320,000-mile national forest road system has been located primarily to serve timber extraction purposes. More than two-thirds of the road system (215,000 miles) is in "local

[1] Sample, V. A.. Below Cost Timber Sales on the National Forests. The Wilderness Society, Washington, DC. 1984. pg.1.

roads", described by the Forest Service[2] as most often "constructed for high clearance commercial traffic", e.g. log trucks; "the most common example of a local road is that facility which provides access to specific cutting units within a timber sale"; "many of these roads are closed during periods when not being utilized by the resource activity that required their construction". A significant but unspecified number of "temporary roads" are constructed each year, mostly via purchaser credit, solely "for the convenience of timber purchasers or other contractor".

In response to another set of questions from you, Mr. Chairman, the Forest Service noted that "general purpose and other resource roads such as recreation and fire access roads...amounts to 5-8% of the annual [appropriated] road construction program"[3]. Considering the additional purchaser credit road construction, this amounts to only 2-4% of total annual national forest road construction. Over the vast majority of the national forest road system, non-timber uses are largely incidental to timber uses and do not significantly influence location, standards, or other road construction cost factors. Such considerations resulted in the TWS report attributing most of the road construction costs to the timber program.

Where road system design is influenced by non-timber factors, such as providing recreational access to a mountain lake or trailhead adjacent to a timber sale area, there is general agreement that only a portion of the road costs should be assessed against the timber program. The Forest Service at present has not yet developed a procedure for apportioning such costs among the various national forest resource program accounts. Presumably, this will be a key element in the improved accounting system now being developed by the Forest Service.

Incidentally, perhaps the most frequently mentioned non-timber benefit from roads is improvement of wildlife habitat. However, state fish & wildlife agencies often tend to view these benefits quite differently from the Forest Service. Many state wildlife agencies view road construction as a major negative impact on fish and wildlife habitat, even that for game species such as elk. The attached letter from Donald Dexter, Director of the Wyoming Department of Fish and Game, illustrates this difference of opinion regarding the benefits of roads to wildlife. Similar situations exist in a number of other states and relations between many state wildlife agencies and the Forest Service are at an all time low over this issue.

[2] Letter from Chief R. Max Peterson to Chairman Charles O. Whitley. February 25, 1985. pg. 11.

[3] Letter from Chief R. Max Peterson to Chairman Charles O. Whitley. April 10, 1985. pg. 1.

Forest roads may have a useful life of ten years or more, even assuming no additional costs for maintenance or reconstruction. Accounting for the value of the road beyond the current year is difficult in an annual cash flow analysis, one reason that a discounted cash flow approach such as NPV analysis is preferred. Nonetheless, in its annual report for FY 1984, the Forest Service asserted that only ten percent of of road costs is attributable to the timber receipts from any given year[4]. However, timber cut in any given year is also transported on roads constructed in prior years. Road costs, therefore, should include not only ten percent of the current year road costs but ten percent of each of the previous nine years road costs as well. The difference between using this method and simply attributing all of the current year road costs to current year receipts is not enough to significantly alter the analysis. In effect, the value of roads over a multi-year lifetime has been considered, albeit imprecisely.

I would hesitate to state that roads are not the overriding reason that many areas are interpreted to be "losing money" on timber sales[5]. The TWS report showed roads to account for approximately 49% of the total costs of the timber program, a figure fairly consistent across the regions and over time. A study done recently by Resources for the Future notes that "whether net benefits...will exceed the cost of access in addition to other management costs depends ultimately on a combination of factors dealing with the construction and maintenance costs of road access"[6]. Road costs will continue to be a critical factor in the economic feasibility of timber harvesting, even with the cost control measures currently being instituted by the Forest Service.

FACTORS TO CONSIDER IN ANY NEW POLICY GUIDING TIMBER HARVESTING ON THE NATIONAL FORESTS

There are a variety of situations on the national forests in which a group of timber sales which are below-cost on a direct cost vs. direct receipts basis are justified. Some of these situations, such as timber salvage or timber removal to control insect and disease outbreaks, are explicitly recognized in law and regulation[7]. Situations will also exist in which net benefits

[4] USDA Forest Service. Report of the Forest Service, Fiscal Year 1983. Washington, DC. 1984. pg. 24.

[5] Letter from Chief R. Max Peterson to Chairman Charles O. Whitley. February 25, 1985. pg. 7.

[6] Bowes, M.D., J.V. Krutilla and P.B. Sherman. Forest Management for Increased Timber and Water Yields. Water Resources Research 20(6)655-663. June 1984. pg. 663.

[7] See: 36 CFR 219.27(c)(1)

to the public, considering both market and non-market resource values, will be higher with some level of timber harvesting than with no timber harvest at all.

A recent study at Washington State University reported that in some areas of the national forests, especially those in western Oregon and Washington, road construction could increase values for roaded types of recreation as well as timber enough to offset the values lost for roadless types of recreation. Assuming that all the important values--both those gained and those lost--are accounted for, this would imply that roading the area and managing the timber produces the greatest overall benefit to the public[8]. This study also reported, however, that if economic efficiency criteria were applied to timber harvesting, more than six million acres of currently roaded national forest land in the Pacific Northwest (42% of the total roaded area) would not have been roaded[9].

A study by Resources for the Future reported that an area of national forest in western Colorado which is acknowledged as uneconomic for the production of timber alone can be managed for a positive economic return when the values of the "joint outputs", in this case timber and water, are combined[10]. It is important, however, to examine the assumptions used to determine how widely this principle can be applied. Water values in the lower Colorado River basin are extremely high and unmatched water storage capacity is available to both capture additional yields and mitigate early season flood peaks. It was assumed that the timber cutting was done in the manner which maximized water yield, not wood production. Water yield is maximized by extensive cutting on a short rotation basis, often in circular openings less than two acres in size[11]. The authors note that "all we can do is...hope for the good judgement of the land manager on the ground to take account of the aesthetic dimensions of the area in which the management program is proposed"[12].

The land management planning process now being developed by the Forest Service is fairly well suited to accounting for and displaying both market and non-market values among alternative management scenarios. The law clearly requires that the national forests not necessarily be managed in the manner which "will give the greatest dollar return" and I don't believe anyone is advocating that timber be sold only where it will result in an immediate cash profit. The mission of the Forest Service is to "promote and achieve a pattern of forest resource uses that will best meet the needs of the people, now and in the future". Accordingly, the forest planning process already contains the tools for assessing both the market and non-market benefits of management activities and, I believe it is the most appropriate forum for resolving the issue of below-cost timber sales.

---

[8] Bruner, W.E. and P.R. Hagenstein. Alternative Forest Policies for the Pacific Northwest. Washington State University, Pullman, WA. 1981. pg. 6.104.

[9] Ibid., pg. 6.63.

[10] Bowes, M.D., J.V. Krutilla and P.B. Sherman. Forest Management for Increased Timber and Water Yields. Water Resources Research 20(6)655-663. June 1984. pg. 663.

[11] Ibid., pg. 662 and pg.658.

[12] Ibid., pg.663.

The key to making this system work is to thoroughly measure both the increases and decreases which would result from the proposed plan in the values of every important resource. For example:

RESOURCE	GAINS	LOSSES
Timber	Increase in timber available for harvest: benefits for fire control and insect and disease control	None
Recreation	Increase in roaded recreation ($10-13/RVD)	Decrease in roadless recreation ($18-24/RVD)
Fish & Wildlife Habitat	Increased opportunities for vegetative manipulation for habitat: improved access to streams for fish stocking	Loss of undisturbed habitat: increased hunting pressure: fish habitat damage through sedimentation and stream siltation:damage to riparian habitat due to higher peak flows
Water	Increased water yields from vegetative manipulation for agricultural, industrial and municipal purposes	Decrease in water quality: lower late season flows requiring investments in increased storage capacity

Problems with this approach have arisen because many gains and losses to non-market resource values are difficult to quantify. Assigned per-unit values for many are given in the RPA Program but increases or reductions in quantity outputs are difficult to predict accurately. Actually, such detailed and precise analyses need be done only in situations where it is clear that the difference between the costs and the benefits is fairly close. For many situations, especially in areas identified in the TWS study as consistently having below-cost timber sales, the direct costs for such things as road construction are so much greater than the directly measurable market benefits that the non-market benefits would have to be very large in order to close the gap. Even though non-market values are difficult to quantify and predict, a reasonable range of values exists on which most parties can agree. If the non-market values needed to close the gap are outside that reasonable range then it is probably safe to assume that the costs of roading and timbering the area exceed the benefits.

I believe such an approach would quickly get to the heart of the issue of below-cost timber sales. Although timber harvesting can enhance non-timber resources such as wildlife habitat and recreation, timbering in economically and biologically marginal areas can also degrade those resources more than it enhances them. National forest users understand that, in the spirit of multiple use management, some resource values often must be given up in order to achieve a greater overall value from the development of other resources. However, when citizens are forced to give up important non-market values so that the timber can be cut at a significant financial loss then they are much less willing to make that sacrifice. This is the true "bottom line" in the below-cost timber sales issue.

CONCLUSION

In conclusion, Mr. Chairman, I believe forest planning, with its analytical tools and its opportunities for public participation, is the most appropriate process through which to resolve this issue. For the present, I don't believe any change in law or regulation is needed -- the courts have yet to be called upon for their interpretation of NFMA Section 6(k), and I believe the law supports the sort of approach outlined above. If a solution cannot be worked out in forest planning and the issue is litigated then Congress may have to respond to the decision of the court to see that the law reflects their current intent regarding the cost effective management of our national forests.

I believe below-cost timber sales should continue to be a major policy concern, both to the Forest Service and to the Congress. Certainly it is of concern to a great many citizens throughout the nation. If it is not dealt with forthrightly and responsibly, it could have as profound an impact on the Forest Service of the 80's as the poor handling of the clearcutting issue had on the agency in the 70's.

Thank you, Mr. Chairman. I will be happy to answer any questions you or the other Subcommittee members may have.

STATEMENT BEFORE THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS AND ENERGY OF THE HOUSE COMMITTEE ON AGRICULTURE

by

John V. Krutilla

My name is John Krutilla. I am an economist employed by Resources for the Future, a non-profit private foundation devoted to research and education in the area of natural resources and the environment. I am testifying here today as an individual, however, and not as a representative of Resources for the Future. My experience includes work in the Office of the General Manager, Tennessee Valley Authority, and some 30 years since in research. My early research was in the field of water resources. I served as the associate director of the water resources program at Resources for the Future. I have also spent approximately ten years as director of the natural environments program. For the past ten years, I have directed the multiple-use management project in RFF's Forest Economics and Policy Program.

Over the years I have also served as a consultant to the Departments of Agriculture, Commerce and Interior, and to the Federal Power Commission, The Bureau of the Budget, predecessor to OMB, The Environmental Protection Agency, The National Science Foundation and on various committees of the National Academy of Sciences. I also served as a member of Secretary Bergland's Advisory Committee on the National Forest System. I have been a consultant on resources and environmental matters to several special agencies of the United Nations in Asia, Europe and Latin America. The testimony which I am about to present draws on the extensive research that I have undertaken as part of my professional work.

II

Multiple Use Forestland Management and The Nature and Problem of Joint Cost Allocation

The problem of below-cost timber sales is generally associated with areas into which roads must be built. This is true for two interrelated reasons. As the more accessible, less rugged timberlands were accessed earliest on, the more difficult terrain was left unroaded. Thus it is not only that roads must be built in connection with these timber sales, but also that construction is more costly. In addition, the unaccessed lands have been neglected in the early harvesting of national forest lands because they tend to occupy less productive sites (GAO p. 11-14). Both the cost of access and the quality of the timber stocks on the forestland accessed with new roads combine to prevent the receipts from timber sales to cover costs of access and sales administration in perhaps the majority of the Forest Service regions.

In having said the above we need to acknowledge that below-cost sales are not entirely confined to previously unaccessed areas. A substantial amount of new construction and reconstruction of local roads is often required in areas that are already fairly well roaded. Where we find below-cost sales in existing roaded areas the estimation of costs will be treated differently in one particular; i.e., there will not be any costs of wilderness opportunities foregone. This is a matter that will be discussed further in the next section.

These are basic findings with which the Forest Service is unlikely to take exception. However, because the Forest Service has been charged under the Multiple Use Sustained Yield Act of 1960 to manage national forest lands for a multiplicity of uses, and a number of these involve provision of unpriced resource services,[1] it argues that attributing the cost of common facilities (e.g., road access) to just one use is simply inappropriate. In this sense the position of the Forest Service is supported by a long-standing literature in economics that deals with project or program evaluation.[2] Allocation of common costs is not necessary for economic evaluation of multiple use undertakings. What is necessary for determining the economic worth of an undertaking is to be able to demonstrate that the separable costs of each one of the several uses will yield economic benefits (not necessarily financial returns) at least equal to its separable costs, and that the total of remaining benefits for all uses will exceed the common cost. Moreover, since allocation of common costs is demonstrably arbitrary, it can result in the exclusion of a use the benefits of which will cover all of its separable costs with some left over to share in defraying the joint costs. Similarly an arbitrary cost allocation can include a use which will not cover its separable costs because its costs can be masked by an improper cost allocation.[3] We can appreciate then that allocating common costs is potentially mischievous. Moreover it need not be undertaken in any event if the purpose for doing so is only to test for economic feasibility in program evaluation. However, if for some other reasons it is necessary to allocate costs to each of several forestland uses it is important that a method for cost allocation be chosen that will not lead to incorrect economic decisions. In this respect the so-called "Separable Costs Remaining Benefits Method", if intelligently applied, is least likely to distort the economic outcome.

---

[1] While some of the resource services provided by the Forest Service are not inherently non-marketable, e.g., recreation uses, the attitude of Congress has not usually been sympathetic toward the use of admission fees.

[2] For an excellent summary of the literature and an analytical review see Chapter IX, "The Allocation of Joint Costs" in the classic work on project evaluation," Water Resource Development, The Economics of Project Evaluation, by the late Otto Eckstein, Harvard Economic Studies (Cambridge 1958).

[3] We can illustrate these points with a simple example. Let us assume that there are two outputs, A and B, from a given acre. Total cost of implementing a prescribed treatment for the land is $300.00 per acre to produce $200.00 worth of output A, and $150 of output B. Let us assume now that the allocation of costs is made proportional to benefits; namely 57

(Footnote continued)

The derivation of costs for the Separable Cost Remaining Benefits Method involves somewhat more engineering analysis than would be customary for a timber sale. To determine the separable costs of any given use there would need to be designed a road access system to meet the requirements of all potential uses other than the use in question. To this system will be added the special features required by the given use last added to the

---

3. (continued)
percent to output A and 43 percent to output B. Accordingly, the costs under this rule would be assigned $171.00 to output A and $129.00 to output B. Suppose now that the separable costs of producing output A was $235.00 and the separable costs of output B was but $40.00 per acre. With separable costs totaling $275.00 per acre we have remaining $25.00 of costs that are recognized as common costs. We now can see that the net value of the two outputs produced in combination would be $350.00 - $300 or $50.00 per acre. But by decomposing total costs into separable and common, we can compare the estimated value of each output with its separable cost as the first step in determining whether the package is economically worthwhile. When we do that we see that the benefits from producing output A ($200.00) do not cover its separable cost ($235.00), accordingly if we eliminate the production of output A we reduce our costs ($235.00) by more that we reduce the value of the prescription benefits ($200.00) and, therefore, the production of output A should be excluded. Note now that allocating costs proportionally leads to an uneconomic result in that it includes a use, the costs of which exceeds its benefits. The correct solution is arrived at without allocating common costs. That is, looking at total costs and total benefits as each output is included (or excluded) separately we can, by such a last added test, see what condition would yield the largest total net benefit. (It is easy to imagine another example that would result in the exclusion of a legitimate use because an improper allocation of costs occurred.)

system. The difference in costs, last added, will be the separable cost of that use. Similarly the cost of each one of the remaining uses will be treated in like fashion until the cost of all of the uses have been estimated when last added. The separable costs of logging roads, for example, would be made up of the cost of local and collector roads. The separable costs for recreation might be the additional access to a developed campground, and perhaps special design criteria required for recreational vehicles over what might be required of logging road access.

When all the separable costs of the access are estimated three things will be done. First, the separable cost of each use will be compared with its separable benefit. When this is done, if the benefits exceed the separable costs, the use is included in the project. If the separable benefits do not cover the separable costs the use is excluded. Second, when the test for the justification of each separable use is completed, the separable costs of the surviving uses are deducted from the total cost to leave the common cost. In the common cost of the road access will be such things as the costs incurred for grading, laying of the bed and the drainage facilities which are costs incurred on behalf of all uses which depend on the road for access. Finally, the common costs must be covered by the benefits remaining after separable costs have been subtracted from total benefits.

The decomposition of costs into common and separable is also applicable to another activity on the forest. Much of the active management that takes place on the forest is produced by vegetation manipulation. Accordingly, the harvest of timber will affect the forest condition differently if the harvest that takes place on the forest is constrained significantly by other objectives. Clearcuts may be restricted to areas smaller than would be typical by a private owner of a commercial tract (in order to provide for aesthetic, wildlife enhancement, waterflow augmentation, or other purposes). Similarly, in the planning of timber sales or overall forest planning itself, costs will be incurred on behalf of one or another non-timber objective that, under current practices would be reflected in increased costs of timber sales. The way in which the separable cost of any use is expressed is by the difference in management cost with that use included, as last added, compared with the cost when that use is not explicitly considered. The joint costs will be the total cost less the sum of separable costs.

Now there may arise cases in which uses have close affinity in that they appear only in combinations. In this event it is possible that if only one use of the combination of uses in question was evaluated when last added, there would be no incremental cost observed. If this were true, however, only if the other element of the combination was included, it is necessary to consider the two as a single combination with its cost given as the difference with and without the combination included in the project. Consider a site that is harvested. Removal of the vegetation reduces evapotranspiration, releasing water available for stream flow. Evaluating the costs with and without water production will reveal no difference in costs so long as timber is harvested. Eliminate the harvest, however, and the increase in yield of water will be eliminated also.

There is yet another case of interdependence that involves sites rather than uses that we need to flag. We note this in passing as it is given special treatment in section IV. This has to do with the value of the services of a given site not being independent of the condition or status of adjacent or surrounding sites. A good illustration may be taken from a hydro-electric example. Consider two sites on a given stream, the upstream site having a large storage potential but limited head, whereas the downstream site has significant head but no significant storage. Now it is possible that each project evaluated separately would show costs that exceeded the value of its output. However, when the storage at the upstream site is contemplated for use to regulate streamflow at the downstream site, the two interdependent projects combined could have project outputs the combined value of which would exceed the combined costs. When interactions between two sites as in this example occur, the interdependent sites must be evaluated together. Interactive sites occur frequently in multiple use forest management, e.g., wildlife forage and cover, and complicate the evaluation process as we note in section IV.

Up to this point we have not distinguished between capital and current expenses. We have been discussing costs that are basically capital costs--i.e., they yield their services over more than one year's duration. There may be current expenditures, those whose cost is recovered within the year, that may also be separable or joint. For computational convenience in project analyses, the current expenditures are discounted to a present value lump sum comparable for analytical purposes to a capital outlay. In accounting it may be more conventional to express costs and returns as annual amounts. In that event the annualized value of capital expenditures will represent the annual charges relevant to an accounting. The annualized value is equivalent to a relevant interest rate applied to the capital expenditure in question plus the annual depreciation rates relevant to the particular facilities. For evaluation purposes all magnitudes reduced to present values suffice. For accounting, the annualized values may be required in order to provide a Congressional review committee the information in the form that it wishes to see it. It is important to note, however, that capital expenditures cannot all be charged to the year of expenditure.

Estimating the separable costs of a given multiple use project may be difficult, and surely would involve a greater amount of work than is involved in designing and estimating the cost of an access road absent the need to deal with separable costs. While difficult, it perhaps is a great deal easier than estimating the value of the associated benefits by class of separable costs. We will explore the nature of the benefits that we might observe for any given access facility in the next section.

III

Observations on Associated Benefits

The building of road access to a previously unroaded area will change the character of the area in many ways. One effect that it will have will be to alter the character of the area in a way that will make it ineligible for wilderness designation. The loss of a wilderness area will represent a potential wilderness benefit foregone, while the retention of an area unroaded will result in a potential developed area benefit loss. The comparison of net benefits from the two incompatible alternatives will reveal which use will provide the larger benefit. How important this exercise will be in a particular case will depend on the circumstances of the case in question.

In contrast with wilderness recreation other forms of forest recreation will not generally be adversely affected by roads in forest environments. This will be particularly true of car camping and related activities at developed sites. In the least complicated case, estimating the value of recreation afforded at a particular developed site is not a matter of great difficulty, assuming the new capacity is required to relieve overcrowding at other developed sites. The method for obtaining such recreation values requires knowledge of the origins of the individuals coming to recreate at the facility that is made possible by the access road.[4] If origin and destination are known (and various sources for this information are available from data that come routinely to the forest in the course of forest management),[5] the estimating method is not particularly difficult. It is, nonetheless, a rather substantial undertaking to be considered for a particular timber sale.

A more difficult case occurs when adequate developed recreation facilities already exist or could be built in the roaded portion of the forest so that no additional roading on behalf of recreation is required. In the extreme case where the new facilities would fail to provide qualitatively better recreation, and excess capacity existed in the roaded area of the forest, no additional net recreation benefits would result from building a new access road. Between the two cases there may be some recreation now occurring at developed facilities on the roaded portion of the forests that would switch to the newly developed sites because it will shorten the distance to recreation. If this case is not already covered by the "qualitatively better" case, the reduction in distance represents a benefit that can be estimated. The substance of this discussion is typically referred to as the "least cost alternative test." The burden of the reference to alternatives is that the benefit from a given use can be no larger than its least-cost alternative since no one would be willing to pay more for the use than the cost from alternative sources. In many cases it is less, and the lesser of the two must be taken as the appropriate value.

---

[4] For a general description of the methods for measuring the value of recreation facilities see J. F. Dwyer, J. R. Kelly, and M. D. Bowes, Improved Procedures for Valuation of the Contribution of Recreation to National Economic Development, WRC Research Report No. 128. (Urbana, Illinois, University of Illinois Water Resources Center, September 1977). For an adaptation of these methods explicitly to forest management situations see Johnson, Krutilla, Bowes and Willman, Estimating the Impact of Forest Management on Recreation Benefits, Resources for the Future, Washington, D. C., 1983.

[5] Johnson and associates, Estimating the Impact of Forest Management on Recreation Benefits, Part II: Applications with Reference to the White Mountain Forest.

To summarize, a new access road may provide for a new recreational facility that could have substantial benefits if the existing opportunities are used to capacity. Providing a new facility when excess capacity of equivalent quality exists will not earn any net benefits. Improving quality, or shortening the distance to a recreational facility for some users, will provide some additional recreation benefits. Finally, regardless of the benefits from the developed recreation area, if it comes at the expense of wilderness recreation the opportunity cost of wilderness recreation must be estimated and deducted. Thus, to estimate the probable recreation benefits from any access road will require time, effort and ingenuity. But if the separable cost remaining benefits method is to be used in order to allocate the cost of roads, this rather laborious process must be carried out to obtain creditable results.

A timber access road would in all probability open access to opportunities for dispersed as well as developed recreation. Without having a very accurate idea of what dispersed recreation involves one could imagine that different parts of any forest might manifest some ecological diversity and that even though an existing trail sub-system might be able to carry a higher density recreation load without imparing facilities or the forest environment, there still may exist interest in, hence a demand for, visiting different parts of the forest for the diversity different parts of the forest provide. While all this is true, it must be conceded that there may not be any reliable econometric methods to estimate the demand for, hence the benefits from, the diversity or variety that would be provided by accessing an ecologically different area.

A third potential benefit of building a new access road into an area previously accessible only by trail, if at all, is the potential new demand for recreational hunting. The bulk of the hunters in many areas do not hunt at more than several hundred yards from automobile transportation. A new access road may thus relieve congestion at existing road-accessed sites, and, if a wildlife management program is introduced in response to the potential demand and the opportunities inherent in the vegetation manipulation that accompanies a timber harvest, a higher hunter success ratio may result. Again we need to be satisfied that the game management program is constrained by too few exisiting road-accessed areas. For example, may the same result be achieved more economically from more intensive management of the presently accessed portions of the forest without new roading? Again we face the question of whether the presently accessed portions of the forest are used (or managed) to optimal intensity. If not, the access road into an unroaded area would not be needed and hence could not be credited with any benefits.

While doubtless some hunters would perceive that accessing a new area was a clear addition to the amount of satisfaction they receive from hunting, the sentiment might not hold for all hunters. We see this from the way the state-affiliate organizations of the National Wildlife

Federation line up in support of aggressive demands for greater amounts of the roadless area to be included in the statutory wilderness system. This suggests that there is a substantial body of hunters who do not view access roads extended into presently roadless areas as a positive benefit. To determine whether on balance recreational hunting receives a positive or a negative benefit from roading would require a substantial study effort, the results from which may not warrant the cost.

Finally, a benefit from new access is likely to be realized in carrying out forest protection work. Savings in trip time will be a benefit from better access to previously inaccessible areas. Not only will a saving of time occur, but there will also be a wider choice of equipment available if it can be transported by motorized vehicles than if by foot or pack animal. The computation of benefits is not likely to be simple, however. It may not be difficult to develop a schedule of savings in trip time, and the increased efficiency of more effective equipment, but for estimating the benefits, there must also be an estimate of the frequency that the road will be used in the service of one or another protection activity. Finally it is necessary to estimate the value of the resources that are being protected, or if not protected at least damage to which may be contained by measurable amounts.

This discussion of the things that need to be known to introduce a creditable multiple-use cost allocation scheme suggests the knowledge base will be formidable. In spelling out what details are needed on the cost and benefit sides shouldn't be interpreted to suggest that all or a part of the knowledge-gaining activities ought to be undertaken. Indeed, it is possible that when the knowledge base required for a meaningful cost allocation for multiple use forestland management is appraised, it will turn out to be infeasible. Some work at RFF funded through a USDA Forest Service Research Agreement and the National Science Foundation can provide the conceptual framework for some types of benefit estimation studies to yield estimates that are needed, but the amount of empirical work that would need to be done is truly awesome. There are some demonstration examples using the Black Hills and the White Mountain national forests, and the West Slope Colorado Rockies forests. These are prototype applications, however. They have taken a substantial amount of time to do. A large question is, "Can such studies be undertaken for each timber sale?" since they are obviously demanding in terms of time and cost and thus may be infeasible as part of a timber sale. A second question is, "Is a timber sales area the appropriate conceptual context to capture all of the relevant impacts or interactions, both positive and negative, that are needed to prepare a proper set of cost accounts?"

IV

Is a Timber Sale a Proper Unit of Account?

Multiple use management has long been appreciated as a means of getting a greater value of desired outputs from a resource than through a single-output management regime. This has been as true in the field of public forestlands management as it has been with water resource systems. In the case of forests, however, there is an additional dimension that is not encountered in water resource management. Forest resources have the added dimension of changes over time unrelated to any activities by man, whether it is due simply to biological growth or to more complex ecological changes as in species succession or even erosion phenomena. When an impoundment or some other structure is built in a water resource system, the project is likely to remain as it was when built. This is not generally true for a forest management project because of the element of biological growth. Let us review some characteristics of multiple use forest management to see what difference biological growth makes.

The output mix from forestland multiple use management occurs in response to vegetation manipulation. Wildlife management looks to the relationship between forage or mast production and cover. Timber harvests, depending on how they are done in response to particular opportunities, may provide conditions favorable to a number of uses of the forest--e.g., scenic overlooks, improved wildlife habitat, water augmentation, etc. Whatever is done by way of vegetation modification, the results produced depend significantly on the status of the surrounding stands as well. Perhaps it is even accurate to say that whatever the output response is to the removal of a stand from a particular site will depend in large part on the distribution of age classes among the stands in the management unit and their spatial dispersion. We may refer to this distribution of stand age classes as "the forest condition."[6]

Such a forest condition may have several age classes and a given spatial dispersion among them in any given forest or management unit. The mix of age class and spatial dispersion is required to provide the diversity on which multiple forest outputs depend. For our immediate purpose, which is to highlight the significance of non-man induced changes over time, it is sufficient simply to posit such a forest condition. At a given moment in time, then, a stand which had previously been removed to provide a forest clearing will have regenerated and thus another stand must be harvested to retain a forest clearing. The original site, along with all others, has moved upward into the next age class by forest growth. The role of any given site thus changes as the vegetation on the site migrates upward through the various age classes in the management unit. Upon initial harvest the site may provide improved forage or mast for wildlife. As it ages it "goes out of production" of soft mass and begins to provide cover, or, depending on the species, hard mast and cover. Eventually the site will be harvested again to provide a replacement forest clearing as the site harvested in the previous period migrates upward in age class.

---

[6] Boyce, Stephen. 1977. Management of Eastern Hardwood Forests for Multiple Benefits (DYNAST-MB); USDA Forest Service Research Paper Se-168 (July).

When we consider that a site provides a variety of different services over time and the value of the stream of services is dependent also on the configuration of residual stands in the management unit, it is clear that one management activity (harvest) at a given site cannot be evaluated in isolation. The interaction of a site with all other sites for some forest outputs in a given management unit strongly suggests that the accounting unit should be sufficiently large to encompass the more important interactions as a minimum. This would usually involve some topographic features that set one management area apart from another, such as a drainage. We would expect such a unit or area to include the major interactions within the management units and minimize the interactions between units. What the precise order stream would provide the most tractable unit for accounting purposes is something which yet remains to be settled. The point of this discussion is only that it is not likely that an individual timber sale studied in isolation would provide a useful unit of account.

V

Do We Really Want to Know?
Something to Think About

The task of determining the cost of timber under circumstances where a multiple-use management regime is prescribed by law is a difficult task at best. A given management activity may, and most often does, affect more than one forest output giving rise to joint costs and an accounting problem. To make a very difficult job even more intractable, many of the jointly produced outputs are non-market goods or services the value of which is very difficult to estimate in some case and impossible, given the state of the art, in others (e.g., the monetary value of erosion control).

While it may be possible to implement the same accounting system used in private industrial forestry, such an accounting system would leave out of account all of the non-market multiple use values required to be provided by numerous laws not the least of which is the most recently enacted National Forest Management Act. To develop a system that responds to the multiple use management regime is a task greater by an order of magnitude or more in difficulty.

This is true not only because there is a very grave problem associated with estimating benefits from non-priced forest outputs. There is also a problem associated with predicting the timing and amounts of the various outputs in accounting quality precision and detail. It is important to distinguish between planning level precision and detail, and accounting requirements for accuracy and detail. Planning addresses the expected outcome to be realized in the future and represents the best estimates of forest outputs over time given planned inputs and the state of the art "planning methodology" for relating outputs to inputs over the long span of time relevant for forest planning. There will always be divergences between projected magnitudes and those actually realized in the future since foresight appears to operate in an atmosphere of low visibility. With built-in provisions to update projected outcomes to reflect updated information, there will be a step-wise revision that keeps near-term expectations and realizations closer with the passage of time than the initially projected quantities for those dates.

Financial accounting deals with accomplishments in the form of realized monetary values. For this reason, as well as others, there are some difficulties going from planning level data to financial accounting. First, the state of the art methodology for predicting multiple use outcomes of management practices is based largely on intuitive knowledge gained by experience, and is of a qualitative "professional judgement" form. Now, while Forest Service research has enjoyed considerable success in simulating timber stands under a variety of conditions and management regimes, neither Forest Service research nor research elsewhere has advanced sufficiently in forest ecology to simulate with fidelity (predict) the response in forest conditions to management prescriptions intending to achieve an appropriate multiple forest output mix. We have the imaginative attempt by Stephen Boyce and the less successful ECOSIM effort. In the latter, while the intent was eventually to deal with a multiple stand environment, the progress on the simulator had not advanced beyond a single stand capability. One needs the ability to handle the interaction among a number of diverse stands to deal with multiple uses. Without such a multiple use simulator with research supported documentation for its calibration and limited validation testing, the data that would feed a financial accounting framework would be quite weak in its factual biophysical (supply) dimensions. Accordingly, there is a deficient knowledge base on both the physical production side, as well as on the economic valuation side, if it is intended to develop a set of accounts for multiple use management of public forest lands that resembles in accuracy and detail the system of accounts used by the accounting profession in the private sector, and more specifically in private industrial forest accounting.

Aside now from the truly awesome amount of empirical work that would be required there is a second problem that will need to be addressed if it is seriously intended to introduce a multiple use financial accounting system for the national forests. There will be need for budgeting/funding changes in at least two particulars. Under current conditions, the proposed budget is made up on the forest level in terms of projects, or program components, that intend to pass an economic criterion, and are "sent up" in management information system (MIH) codes. In the further budget and appropriations process these codes get translated into Program Development and Budget (PD & B) aggregate codes at the regional level and further into the Appropriations and Function (AP & F) codes used by the Office of Management and Budget (OMB) and the Congressional Appropriations Committee. Negotiations over budget and appropriations at the Washington level are carried out in terms of appropriations and functions at which level of abstraction (or code classification) the decisions are made on the President's Budget and finally on appropriations. Now, the Washington Office (WO) Program Development and Budget staff insist earnestly that the integrity of the forest level program data is maintained throughout the upward movement from MIH codes through the PD & B and the AP & F codes and, after the President's Budget and Congressional appropriations, back down again in the complete set of codes, including the MIH codes used on the forest. However, it doesn't seem that it is in fact possible to do, even accepting the sincerity of the WO staff and their conscientious efforts to retain the identity of program components. There are two reasons to doubt that this intent is actually achieved. First the transformation from Appropriations to MIH codes requires a level of detail that the Washington Office does not have on forest level programs. The Regional Office is the highest administrative level at which this detail (necessary to cross walk the appropriations back into forest level programmatic terms) is retained. Second, conversations with forest-level field personnel indicate strongly that it is difficult to find correspondence between the program budget proposals sent up from the field in MIH codes, and the program implied by the MIH codes that accompany the AP and F codes by which their appropriations and targets are made known to the forest-level personnel. Because budgets prepared at the forest level are comprised of program components that pass suitable criteria and are identified by a set of descriptor codes understood at the level where the work is to be performed, it is not a matter of indifference that the identity of the program components be preserved throughout the process of translation, aggregation and disaggregation.[7] Accordingly, a case can be made for conducting the entire budgeting and appropriating processes restricted to a single program related system of codes, if it is intended to adopt a financial or economic accounting system for the National Forest System.

---

[7] Recall that it is not possible to treat any isolated timber sale as the ultimate determinant of economic justification. It is necessary to evaluate the output from the sites on which harvests occur over the entire life cycles of the sites. Moreover, because of the interdependence among sites it is not possible to evaluate any site, even over a whole rotation cycle, independently of the sites among which interactions occur in providing multiple use benefits. Accordingly, in order to evaluate the

(Footnote continued)

While a good case can be made in favor of the MIH codes, there are reasons also to suspect that neither the Congress, nor some WO level administrators would look with favor on such a change. Without congressional approval for the change, however, the next best alternative might be to have the function of translating the Appropriation and Functions codes into the MIH equivalences, delegated to the regional offices. This is where the required information exists for allowing the translation to be made in a way that would protect the identity of the forest programs during the odyssey from the forest to the Washington Office and back.

A second budgetary change would also have to be implemented if we were to expect an accounting system that would make much sense to accountants. This has to do with the need to treat capital expenditures differently from current expenditures. At the present time the financial treatment of Forest Service expenditures is equivalent to including the total purchase price of an automobile in the first year's cost of commuting, and no capital charges in years that follow. Unless a capital account is

---

7. (continued) economic justification of land management practices, the total interactive unit must be evaluated as a unit. Since this requires foresight concerning projected inputs and outputs it will depend basically on a planning type exercise. Now since the RPA and Forest Planning (FORPLAN) processes intend to guide forest management, it follows that budget proposals developed at the forest level will need to relate to approved plans for national forests. If, in the budget and appropriations process, however, the FORPLAN-based data get scrambled, then what knowledge and understanding are gained through the planning process are lost through the budget and appropriations processes. Needless to say accountability under such circumstances becomes a very nebulous phenomonen.

established and its treatment follows conventional accounting practices the set of accounts which would be rendered to reflect Forest Service costs are essentially meaningless.

VI.

Conclusions

When one considers the kind of investigations associated with estimating separable benefits and costs, and the procedural changes required by both the legislative and executive branches to deal meaningfully with the question, "how much does it cost the Forest Service to produce timber?" one can lay out, as was done in the body of this paper, how one might try to respond to the question. But one can harbour serious reservations about the likelihood that OMB and the Congress would tolerate (appropriate) the sums of money and the time that would be required to develop a set of accounts for which they would like to be remembered. Indeed, I suspect, and it is even alleged, that the present way of accounting to Congress has evolved precisely out of the potential cost and frustration anticipated were the Forest Service to inaugurate a system of accounts for multiple use management of public lands that would make possible proper comparisons with private industrial forest management accounts.

It is possible that a cruder approximation to accounting-quality cost data might be available that would shed more light on the economics of national forest management than the present system of accountability. Current practice involves a report of achievements partly in monetary terms, where this is possible, and partly in terms of physical accomplishments, e. g., miles of land line location, numbers of recreation visitor days, etc. It is possible that some of the planning level data might be used to give indicative results. But it should not be expected that these results would be comparable to the kind of data cost accountants are accustomed to work with whether in the private or public sector, nor to expect that there will be any comparability between the private industrial forest sector accounting and the Forest Service's. Nor should there be any by reason of the different missions of the forest institutions in the two sectors.

To summarize briefly, then, it is possible, in principle, to get most of the data necessary to determine that part of the cost of Forest Service multiple use management that is attributable to timber. The magnitude of the task, however, makes the feasibility of the task questionable. Perhaps something less compelling than an accounting system in which all of the economic magnitudes relevant for accounting purposes are accounted for would meet the needs of the Congress. If that were the case, perhaps forest planning data could be used to indicate what the costs would be if the forests were managed for timber alone, using the best data currently available. In the meantime one can argue a priori that below-cost timber sales are not necessarily uneconomic as well as that they aren't necessarily economic. What any particular below-cost timber sale would turn out to be on examination is an empirical matter.

STATEMENT BEFORE THE SUBCOMMITTEE ON FORESTS, FAMILY FARMS AND ENERGY OF THE HOUSE COMMITTEE ON AGRICULTURE

by

John V. Krutilla

My name is John Krutilla. I am an economist employed by Resources for the Future, a non-profit private foundation devoted to research and education in the area of natural resources and the environment. I am testifying here today as an individual, however, and not as a representative of Resources for the Future. My experience includes work in the Office of the General Manager, Tennessee Valley Authority, and some 30 years since in research. My early research was in the field of water resources. I served as the associate director of the water resources program at Resources for the Future. I have also spent approximately ten years as director of the natural environments program. For the past ten years, I have directed the multiple project in RFF's Forest Economics and Policy Program.

Over the years I have also served as a consultant to the Department of Agriculture, Commerce and Interior, and to the Federal Power Commission, The Bureau of the Budget, predecessor to OMB, The Environmental Protection Agency, The National Science Foundation and on various committees of the National Academy of Sciences. I also served as a member of Secretary Bergland's National Forest System advisory committee. I have been a consultant on resources and environmental matters to several special agencies of the United Nations in Asia, Europe and Latin America. The testimony which I am about to present draws on the extensive research that I have undertaken as part of my professional work.

II

In a multiple use forest management environment, timber sales below cost do not **necessarily** indicate an economically unjustified timber harvest. Neither do timber sales below cost in a multiple use environment **necessarily** indicate that the harvest was economically justified. The critical consideration is that timber receipts plus multiple use benefits must equal or exceed management costs. And the answer will depend on the particular circumstances surrounding each case. Hence the issue is an empirical issue that cannot be resolved except by appropriate quantitative analysis. It will involve a study of the value of unpriced resource services as well as value of timber harvested along with a rather specialized analysis of management costs.

Because timber in the multiple use management regime bears more than a superficial resemblance to power in a multiple purpose river project--in that both are looked upon as paying partners of jointly produced vendible and nonreimbursable resource services, it is useful to review the experience of estimating the cost of power in a multiple use water project. If the experience in the water field will serve as a useful model it will be especially useful since the Congress has sanctioned the method of valuation and cost allocation used in the water resources field for nearly half a century.

In multiple use management whether water or land the regime implies some interdependencies. These will involve jointly produced outputs or services like power, flood control or navigation in the water case, and timber, wildlife, recreation and others in the land management case. These interdependencies result in jointness in production of outputs, and we find them in both the water and forestland areas.

Other interdependencies are not between outputs, but rather between one site and another. Here we can visualize a storage reservoir with little developed head and downstream a run-of-river project with substantial head and no significant storage. It may be that neither one standing alone would justify construction, yet the combination may be undertaken economically. Similarly in the forestland management case a harvest may produce timber and forage for wildlife but the latter is dependent on how the surrounding sites are being managed--because for most ruminants ready cover is required before the forage is efficiently cropped. For example, a very large clearcut would have only the perimiter area cropped, the remainder being too far removed from approximate cover.

To this point the forestland and river cases are parallel, but there is one aspect of land management not encountered in water projects. That is the factor of growth or change over time that affects the forest site that does not occur with a dam site. Although the function of a hydro development might change over time on rare occasions owing to external circmustances, the role of a forest site will change as the harvest site will initially provide forage, later on cover and even later perhaps cover and hard mast, as it ascends upward in age class before it is harvested again.

This changing character of a site due to biological growth has some implication for the below-cost timber issue. One needs, not only the value of the harvests from the site, but also the value of the resource services the site provides through time in between the harvests. The value of the services from any given site, however, depends on the way in which the other sites in the area are managed. This complex of interacting sites makes estimating the economic consequences of a harvest from any single site extraordinarily difficult. Indeed, I think it safe to say that it cannot be done with the present state of the arts analysis and information. We cannot perform the kind of analysis on a given woodland site that will duplicate in accuracy the results we have been able to obtain satisfactorily for dam sites.

If we cannot do that, what can we do? One possibility is to redefine the accounting unit from a timber sale area to a management unit of sufficient size and characteristics to contain the vast bulk of the site interactions, and to reduce spillovers between management units. A drainage of appropriate order would very likely qualify for the purpose. The prescription for management of the entire unit could then be subjected to analysis to determine whether the program as a whole, when observing efficiency criteria, would be justified economically. This is what is being attempted in the current round of forest-level planning efforts. One modification in the treatment of costs in the current planning procedures, however, would be required. And that is to replace the current classification of costs to more properly reflect common and separable costs so that any element, particularly timber, could be evaluated with results good to a first approximation.

To conclude, the kind of information that we could expect from planning level efforts would not resemble current accounting concepts, precision and detail. Partly this has to do with the use of accounting to report on completed transactions during the year, whereas planning data deal with intended expenditures and expected results. Planning data here have the characteristics of budgets rather than accounts. That is, they deal with prospective results, while accounting deals with realized result. Yet I cannot visualize how an accounting framework that intends to report on timber receipts and the value of nonpriced resource services in terms of current accounting concepts, precision and detail, by individual timber sale, can be implemented at any reasonable costs, if at all.

TIMBER SALES BELOW-COST: THE NEED FOR PUBLIC ACCOUNTABILITY OF NATIONAL FOREST MANAGEMENT*

Doug Rideout, Ph.D.
Asst. Professor of Forest Economics
Dept. of Forest and Wood Sciences
Colorado State University
Ft. Collins, CO 80523

June 6, 1985

---

*Testimony presented before the U.S. House of Representatives Committee on Agriculture; Subcommittee on Forests, Family Farms, and Energy.

Acknowledgement: Appreciation is expressed to John Wagner, Graduate Research Assistant, who participated the preparation of this paper.

TABLE OF CONTENTS

INTRODUCTION 1

- Agency Responses..2
- Conclusions of Previous Studies.......................3

CAUSES OF BELOW COST TIMBER SALES 4

- Physical and Economic Factors 5
- The Environmental Movement 6
- A Roading - Wilderness Issue 8

COST ACCOUNTING AND PUBLIC MULTIPLE USE FORESTRY 10

- Joint Cost Considerations 10
- Inappropriate Accounting Methods 13
  - Private Sector Techniques 13
  - Separable Costs Remaining Benefits 14
- Cost Accounting Consistent with Joint Production ...15
  - Core Theory 15
  - Generalized Shapley Value 16

CONCLUSIONS 18

LITERATURE CITED 20

APPENDIX: Illustrative example of the failure of SCRB to completely distinguish between joint and separable costs...22

INTRODUCTION

The National Forest Management Act of 1976 (NFMA) addressed the economic viability and accountability of the U.S. Forest Service by specifying the use of economic criteria in National Forest planning. Before passage of the NFMA, evidence of serious fiscal and economic difficulties associated with the U.S. Forest Service was mounting. For example, as the NFMA was under consideration, senior RFF forest economist, Marion Clawson, reported the dismal economic condition of the U.S. Forest Service with a warning that unless positive action was taken, the future would see little improvement:

> ". . . the economic return on the huge capital value of the forests is but 1/2 of 1 percent. A resource management record of this kind is unacceptable . . . More serious than the recent past is the danger that the future performance will be equally bad unless positive measures are taken to change it." (Clawson 1976)

Many analysts viewed the economic problems of the U.S. Forest Service as manageable by requiring the incorporation of economic analysis into the planning process. Although the NFMA requires annual agency accounting to Congress, the act does not include any provision for a formal system of public accountability regarding agency activities; including the timber sales program.

Inefficient management in public endeavors is generally accompanied by insufficient accountability. Accountability in public agencies attempts to ensure the maintenance of, or improvements in allocative efficiency (Jackson 1983). When public agencies are not accountable for the extent of their expenses or the magnitude of their benefits, their management cannot be expected to be efficient. Clawson's statement reflects a time when cost accounting was not part of U.S. Forest Service operations.

Agency Responses

Today there is little evidence of formal cost accounting in U.S. Forest Service operations. The sales-below-cost controversy illustrates the agency's inability to publicly account for its decisions (good or bad) regarding timber and other resource programs. As noted by Popovich 1985, this often gets the agency into trouble. Even when sound decisions are made by agency officials, the lack of accountability seriously cripples the agency's ability to adequately respond to questions of fiscal integrity.

The sales-below-cost issue raised particularly troubling issues because it questions the basic integrity of one of the agency's oldest and perhaps best developed resource programs; commercial timber production and harvesting.

Although the practice of managing below-cost timber sales is not new, the frequency of occurrence of below-cost sales and popular concern with the issue are unprecedented. Today, the timber sales below-cost controversy demonstrates popular concern largely spurred by a well orchestrated and powerful environmental movement.

Development of a formal and well designed cost accounting system for the U.S. Forest Service's timber sale program should lend the agency the ability to properly respond to issues regarding its financial integrity, and improve its decision--making ability. Preliminary evidence suggests that popular concern over the sales-below-cost issue has already had cost-reducing effects on timber harvesting and management on U.S. Forest Service regions in the Rocky Mtn. area and nationally[1].

Conclusions of Previous Studies

Several reports issued on sales-below-cost in 1984 (see references) demonstrate the current importance of the accounting problem to public forestry. These reports made some important observations. They generally concluded that timber sales below-cost occur in nearly every Forest Service region, but are more frequent in regions where growing conditions are difficult; especially in the Rocky Mountains and S.E. Alaska. They also recognized that timber sales may be associated with benefits that do not generate revenues such as recreation access, augmented water yield or improved forage. In addition, some timber sale expenses may facilitate benefits beyond the sale period.

Perhaps the best known of these studies, the GAO report, also concluded that the U.S. Forest Service needs improved accounting techniques for purposes of public reporting and decision-making concerning timber sales. A subsequent Wilderness Society Issue Brief (Sample 1984) especially identifies forest roads as a crucial stumbling block to proper cost accounting and analysis. It noted that forest roads may be associated with combined accounting difficulties of multiple use, amortization and mitigation costs.

---

[1] For example, see memo (2-21-84) from F. Dale Robertson (for Max Peterson) to Regional Foresters, Area Director, and Station Directors: in U.S.D.A. Forest Service 1983.

Although these reports did a remarkable job of identifying the occurrence of sales below-cost, and some recognized the difficult accounting task necessary to properly tackle the issue, none employed accounting techniques properly adjusted to compensate for multiple-use benefits, amortization or resource mitigation.

CAUSES OF BELOW-COST TIMBER SALES

Timber sales-below-cost are not new. In the Rocky Mtn. region, they date back to least the mid 1960's. However, before the mid to late 1970's sales below-cost were not nearly so prevalent (the GAO report estimated that in 1971-1972 93% of Rocky Mtn. timber sales were below-cost).

Physical and Economic Considerations

National Forest timber harvesting evolved from forest lands of relatively high productivity that were relatively close to processing facilities. These harvest sites required much less costly access (including less roading) over more favorable terrain and less elaborate and less costly harvesting systems. These lands were typically occupied by virgin old-growth forests of relatively high commercial value. Although old-growth harvesting continues today, generally the best (most highly valued) timber was harvested first and the lesser valued timber left.

In addition to the natural progression to less accessible harvest sites and lower quality timber, the 1980's brought in a well-known crash in most of the nation's stumpage markets. For example, in U.S. Forest Service Region 6, average stumpage prices for Douglas-fir fell 73% from a reported average of $432.20 to just $118.20 in only two years (U.S.D.A. Forest Service 1985). Today the same price index, adjusted for inflation, shows no improvement.

Stumpage prices for many other commercial species produced on U.S. Forest Service lands also plunged. Many long-term factors appear to be imbedded in the stumpage price decline. These include a depressed world (export) market for dimension lumber, increased Canadian exports at low prices, and a resurgence in Southern U.S. forest products. The combination of these and other factors affecting the prices of dimension lumber indicate to many analysts that only modest recovery, from the currently depressed prices can be expected in the current decade (Adams and Haynes 1985). Relatively low stumpage prices directly affect the occurrence of below-cost sales by reducing the revenue side of the sale ledger.

The Environmental Movement

The 1960's saw the formation of a national environmental movement. In forestry, the environmental movement sought to curtail irresponsible forest practices (for example, the Mongahela and Bitterroot cases) but it would also add exorbitant costs to timber sale programs; often with little evidence of corresponding environmental benefits to justify added expenses.

Formal expression of the movement was seen in Earth Day 1971 and in NEPA 1969. Subsequent to NEPA, the Resources Planning Act (RPA) and was passed in 1974 with the NFMA following. Both of the RPA and NFMA were passed with particular reference to NEPA and both contain language reflecting an environmental concern over U.S Forest Service timber harvesting and reforestation practices.

Public forest management rapidly responded and many timber harvest practices were modified with an environmental agenda. Some harvest practices were modified to ensure reforestation of cut-over lands, some were modified to reduce the visual impact of timber harvesting, some were modified to reduce the impact of timber harvesting on other forest resources and some were changed to improve or augment the production of other forest resources. These modifications included, changing the size, shape and spacing of harvest units. Harvest locations were also changed sometimes at increased roading costs so that harvesting would not be obvious. Also increased use was made of alternative harvest and reproduction methods such as shelterwood and selection silvicultural systems.

In consequence, most U.S. Forest Service regions harvesting costs increased due to redesign of sale harvest standards. As a case-in-point, following the RPA/NFMA legislation, a 40 acre limit (with exceptions) was imposed on all timber harvest units. Although this limit was established to prevent the occurrence of serious environmental problems, the average harvest unit size eventually declined to 27 acres nationally (U.S.D.A. Forest Service 1983). A productivity improvement report on Forest Service timber sale procedures (U.S.D.A Forest Service 1973) showed that although the national average harvest unit size had fallen to 27 acres, there had been such a significant decline in harvest size since 1970 that very small (5 - 20 acre) harvest units are not uncommon. The study concluded that "cutting unit size has significant influence on program costs associated with the timber sale program within the range of unit size practiced on most Forests" and that $4.5 million could be saved annually by reducing the number of "very small" harvest units. Increasing harvest costs increase the occurrence of sales-below-cost by increasing contractor costs which in turn mean lower contractor bids on stumpage and less net return on timber sales.

A Roading - Wilderness Issue

The tenacious perseverance of environmental interest groups to document and exhibit the sales-below-cost issue suggests more is at stake than just the fiscal integrity of the U.S Forest Service.

The regions of most concern in the sales below-cost controversy have been S.E. Alaska and the Rocky Mtns. In fact, the correlation between the sales-below-cost controversy and the occurrence of high road construction costs relative to timber values suggests to some that sales-below-cost has become a surrogate for roading or wilderness issues.

In the lower 48, the sales-below-cost controversy may be an extension of the RARE II process. With timberlands released from RARE II and resulting wilderness designations past, sales below-cost may have become a vehicle for keeping "defacto" wilderness acreage unroaded and primitive.

Because of the Alaskan Native Claims Settlement Act (ANCSA 1971) and the Alaskan National Interest Lands Conservation Act (ANILCA 1977) Alaskan National Forests were exempt from the RARE II process. Instead, ANILCA contained provision for the greatest single addition to the wilderness base in the history of the country; about 56 million acres. In exchange, ANILCA assured the timber interests of an average annual sale offering of 4.5 million board feet (approximately equal to the pre-ANILCA harvest level).

Establishment of the new Alaskan wilderness acreage meant a reduction in the acreage available for timber harvesting. Although the annual sale offering level was not reduced, the quality and cost of the timber sales program was adversely affected. Reductions in the timber base were partially compensated by new investment levels and by increased harvesting on special and marginal forest lands (Rideout 1984). Because harvest sites had to be selected from a reduced land base associated with higher harvesting costs, ANILCA also contains provision for additional funding (at least 40 million annually) of the S.E. Alaska's timber harvesting program. The additional funding of S.E. Alaska's timber program was a recognition that with the new wilderness and other withdrawals from the timber base that the program would be below-cost.

In effect, through passage of ANILCA, Southeast Alaskan sales-below-cost were legislated in exchange for what wilderness historian and advocate Roderick Nash deemed " . . . the greatest step toward wilderness preservation in world history" (Nash 1984).

The natural progression of harvest patterns over time combined with adverse economic conditions for the commercial forestry community and the advent of environmental constraints on forestry practices placed tremendous pressure on the fiscal viability of public timber harvesting in regions where timber revenues are relatively low. A surge of below-cost sales resulted.

COST ACCOUNTING AND PUBLIC MULTIPLE-USE FORESTRY

In public forest management a spectrum of benefits is often generated from a common (or set of common) asset(s). For example, forestland may be simultaneously engaged in the production of timber, water, and wildlife outputs. In this situation some extent of cost, associated with the common asset, is typically not separable to any single product. This defines an economic condition known as joint production and represents an accounting difficulty. This condition seems especially prevalent in regions where sales-below-cost are frequent because the commercial value of timber (stumpage) is not always sufficient to warrant single-purpose timber sales. Because timber revenues are relatively low in these regions, timber production and harvesting is often combined with the production of other forest products.

Joint Cost Considerations

Fiscal analysts have two basic tacks available to address joint production issues. First, total production costs may be compared with the total benefits (including non-timber or "non-market" benefits to determine net benefits. In principle, this method is economically sound and should be used when appropriate. This notion of comparing net benefits seems evident in the NFMA language (although several inconsistencies are also evident). It is economically sound and should be used when appropriate. However, when comparing total benefits with total costs as a performance measure (in the absence of additional information) two important considerations should be made.

First, comparisons of totals do not provide the capability of addressing issues by product category. Comparing totals, while analytically correct, does not sort costs by product category. Although sorting costs by product category is not necessary for economic efficiency analysis, the inability to sort costs in an economically consistent manner provides little help for public agencies which must report and budget (for example, the U.S. Forest Service uses "line-item-budgeting") by product category.

Because of an imposed need for public agencies to report and budget by product category with no economically consistent means of so doing, costs are often implicitly sorted in counter--productive ways. Unfortunately, when costs are not sorted in an economically consistent way, they are often implicitly sorted in ways which are inconsistent with the economic structure of multiple purpose projects. For example, in the sales-below-cost controversy, when timber sale revenues are compared with total dollar costs, all dollar costs are implicitly charged against the "timber account" even when some costs are separable and properly attributed to other products. Implicit sorting can be expected to make some resource programs appear much more costly than they are and others appear to be produced at little or no charge.

The second consideration, in making comparisons of total benefits with total costs in public forestry, involves estimating the occurrence and magnitude of non-priced benefits. Although economists have developed intricate and sophisticated techniques for estimating the magnitude of some non-priced benefits, these estimates are typically subject to considerable controversy and misunderstanding of their meaning. In addition, some U. S. Forest Service analysts claim that certain nontimber multiple-use benefits are "essentially nonmeasurable" (Schuster and Jones 1985). Cost sorting techniques that rely on questionable and controversial benefit estimates may leave the results of cost sorting with little credibility.

Reflecting these two basic considerations, a viable cost accounting system for public forestry must have the capability of properly distinguishing between joint and separable costs and it should not have to rely on questionable estimates of the magnitudes of non-market benefits.

Forest roads which are closely associated with sales-below--cost have served a dual purpose. They have been a focal point of debate concerning potential wilderness issues and they pose the most rigorous test of cost accounting processes. To handle roads, a properly functioning cost accounting system must have the additional capabilities of incorporating resource mitigation and amortization problems simultaneously. Finally a cost accounting/allocation system should be as consistent with conventional economic theory as practical.

Inappropriate Accounting Methods

Given these considerations, many kinds of cost accounting/allocation techniques are quickly ruled out. Specifically, conventional accounting techniques from the private sector and the method know in public finance as Separable Costs Remaining Benefits (SCRB) should be ruled out.

Private Sector Techniques

Practically all conventional methods available from the private sector are not appropriate for public forestry endeavors. These methods are typically based on addressing issues of taxation rather than sound economic principles. In addition, they are based on concepts of private finance and profit-seeking instead of the public finance. Some specific methods include cost allocation by proportionate use, by proportion of sales revenue, the "direct allocation method", the "step-down" method the "reciprocal allocation" method and many others (see Horngren 1982 for more specific definitions). These methods are all potentially dangerous as they do not properly distinguish between joint and separable costs.

Separable Costs Remaining Benefits

This method is distinguished form private-sector methods (above) as it is rooted in the public finance literature. Developed primarily for water resources problems, it has generally fared poorly in recent public finance literature. The method has several severe drawbacks which make it dated and inappropriate for public forestry.

First, it is heavily reliant on estimates of non-market benefit data. It allocates project costs by first allocating separable costs to their respective products. It then attempts to allocate the joint portion of cost by a proportion of (remaining) benefit associated with each product category. This requires a tremendous amount of information; not only is cost data necessary but a complete set of benefit information is required.

It should be noted the function of the benefit data in SCRB is superfluous because it is used to allocate the joint portion of cost which is arbitrary. In essence, where nontimber forestry values are involved and are costly and unreliable to estimate, SCRB requires substantial expense to accomplish something for which no expense is necessary.

The more subtle problem with SCRB is that it does not entirely distinguish between joint and separable costs. Thus its allocations can imply economically inefficient production methods. This is a relatively new and technical finding that is demonstrated in the appendix to this paper.

Cost Accounting Consistent with the Economics of Joint Production

A review of the accounting and public finance literature (Rideout and Wagner 1984) revealed that the application of game theoretic logic to problems of joint production in public enterprises is superior to many previous methods. Accounting methods based on an economic "core" or set of "Pareto Optimal" allocations are generally consistent with the cost structures of joint projects.

Core Theory

Core methodology shows that cost allocations are not necessarily as arbitrary as previously thought (this is demonstrated by example in the appendix). By definition, the truly joint portion of cost cannot be allocated in an economically meaningful way with any system.

Two specific methods have been found to be consistent with the cost structures of joint projects; the Shapley Value (and the Generalized Shapley Value) and the Nucleolus. The public finance literature shows successful application of these methods to a host of problem areas including; allocation of telephone charges, allocation of waste treatment charges to users, allocation of water charges and the allocation of charges for airport landings.

Neither of these methods requires estimates of non-market benefits and both rely on basic equity (as opposed to efficiency) criteria to allocate the joint portion of cost. The Shapley methodology allocates joint costs based on expected values of cost imposition by product category. The Nucleolus method allocates the joint portion of cost based on "minimizing the complaint" associated with the least-well-off product. Both methods have advantages over the other.

Generalized Shapley Value

At CSU, we have adapted the Generalized Shapley Value for application to multiple use forestry problems. Our adaptation of the Generalized Shapley value includes the following characteristics:

1. Non-market benefit information is not necessary
2. Amortization (or distinguishing between a capital and a current account) is performed in a manner consistent with the cost structure of the project.
3. Resource mitigation expenses are accounted for and allocations to the mitigated resource may be included.
4. It may be applied at any scale of analysis (e.g. the planning level, the forest level or the timber sale level).
5. It distinguishes between dominant and co-dominant products.
6. It allocates separable costs to their respective products
7. Allocations are performed in a manner consistent with multiple-use objectives. For example, if multi-purpose production is efficient, the system allocates costs in a manner consistent with efficient production (see appendix).

8. It performs intermediate checks on project efficiency
9. The sum of allocations equals total project cost
10. Any additional cost that a product category imposes is allocated only to the product imposing the cost.
11. Products are allocated a cost share based on the product's cost structure, not no the cost structure of other products.
12. Allocations are monotonic with respect to costs imposed by any product category.
13. In the event of increasing costs, where separable production is implied, the system conforms with principles of marginal cost pricing.

Perhaps more important than the specific traits of a specific accounting practice, is the notion that when joint cost allocations are made (under any system) that the extent of arbitrariness is also reported. Comparisons of reliable benefit estimation with separable costs are valid.[2] By including information on arbitrariness, comparisons of cost accounting information with benefit estimates can be made, by resource program, without distorting the decision framework.

---

[2] In a strictly convex incremental cost set, if benefits to a given product are less that the product's separable cost then the project can be made more efficient by dropping the product. However, in a non-convex cost set the same comparison only indicates that there is an inefficiency in the project. The project may or may not be more efficient by dropping the product category that does not pass the separable cost test.

CONCLUSIONS

Public agencies do not have the natural self-regulating market pressures of private firms. With private firms, in a competitive setting, efficient performance and innovation are rewarded through financial incentives and poor performance is can be severely punished. Instead, public agencies are typically held accountable by other sectors of government. Recognizing room for improvement in the economics of public forest management, the NFMA requires the use of some economic criteria in planning efforts and annual reporting to Congress.

To the extent that the U.S. Forest Service must report by resource program (product category) and budget by program (line-item), cost allocation is either implicit or explicit. The trouble with implicit accounting and allocations is that they typically make some programs appear practically cost-free while heavily penalizing others.

New analytic techniques provide the basis for explicit cost accounting and cost allocation consistent with the economic structure of public multiple-use forestry. These techniques can be applied, in a formal accounting format, to provide the Congress and other interested public with the information it requires.

A well designed cost accounting system for public multiple-use forestry must have the capability, of multi-resource analysis, amortization, accounting for mitigation costs, and it should be independent of estimates of the magnitude of non-market benefits.

LITERATURE CITED

Adams, Darious M. and Richard W. Haynes. 1985. "Changing Perspectives on the Outlook for Timber in the United States." JOF 83:1 32-35.

Clawson, Marion. 1976. The Economics of National Forest Management. Resources For the Future. Wash. D.C. RFF working paper EN-6. John Hopkins University Press.

Emerson, Peter M., Anthony Stout, and Dean Kloepfer. 1984. Wasting the National Forests: Selling Federal Timber Below Cost. Economic Policy Dept., The Wilderness Society, Wash. D.C. Sept 1984. 14pp.

General Accounting Office (GAO). 1984. Congress Needs Better Information on Forest Service's Below-Cost Timber Sales, Report GAO-RECD-84-96, Wash. D.C. 46pp + viii.

Horngren, Charles T. 1982. Cost Accounting: A Managerial Emphasis, (5th ed.). Prentice-Hall, Inc. New Jersey.

Jackson, P.M. 1983. The Political Economy of Bureaucracy. Barnes and Nobel Books. New Jersey.

Nash, Roderick. 1984. "Path to Preservation" Wilderness 48:165 pp. 5-11.

Popovich, Luke. 1984. "When Critics Accuse the Forest Service of Selling Timber Below Cost, the Agency Replies in Two Words: Multiple-Use! JOF Oct. 1984. pp.594-99.

Rideout, Doug. 1984. Analyzing and Accounting for the Costs of Multiple-Use Forestry. Paper presented at the "Forest Transportation Symposium" Casper, Wyoming. 15pp.

_______, ____. 1984. "Structural Changes in the Timber Economy of Southeast Alaska." Can. J. For. Res. 14:498-505.

_______, ____. and John Wagner. 1984. Cost Accounting for Allocation and Analysis of Investment and Production Costs in Federal Forest Management: A Literature Review and Annotated Bibliography. Unpublished Report. Colorado State University, Ft. Collins, CO.

Ruderman, Florence K. 1985. Production, Prices, Employment, and Trade in Northwest Forest Industries, Third Quarter 1984. PNW - 123 (Resource Bulletin) U.S.D.A. Forest Service.

Sample, Arlic V. Jr. 1984. Below Cost Timber Sales on the National Forests. An "Issue Brief" Economic Policy Dept. of the Wilderness Society. Wash. D.C. 24pp + iii.

Schuster, Ervin G. and Greg Jones 1985. Below-Cost Timber Sales: Analysis of a Forest Policy Issue. General Technical Report INT-83. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station; 1985. 17p.

U.S.D.A. Forest Service. 1983. Timber Sale Procedures Productivity Report. Productivity Improvement Team. Wash. D.C. 91.pp + vii.

APPENDIX

Illustrative example of the failure of SCRB to completely distinguish between joint and separable costs.

Assume a "joint" project in which four products are to be produced. Product one is denoted by "1", product two is denoted by "2" etc. The total cost of this four product project is 35.

The Benefit schedule is:

Product 1 = 42
Product 2 = 42
Product 3 = 12
Product 4 = 12

To properly analyze the problem, the following cost information is necessary.

Single Cost Estimates:

C(1) = 10 = the least cost means of producing product 1 independently of the other three products.

C(2) = 10 = the least cost means of producing product 2 independently of the other three products.

C(3) = 12 and C(4) = 12.

Double and Triple Cost Estimates:

C(12) = 16 = the least cost means of producing products 1 and 2 together but independently of the other two products.

C(13) = 18 = the least cost means of producing products 1 and 3 together but independently of the other two products.

C(14) = 18
C(23) = 18
C(24) = 18
C(34) = 20

C(123) = 25
C(124) = 28
C(134) = 30
C(234) = 30

C(1234) = 35 total project cost as stated above.

The SCRB cost allocations[3] are (by product):

Product #	SCRB Cost Allocation
1	7.35
2	7.35
3	9.35
4	10.94

The cost structure of the problem indicates that the least cost method of production is producing all four products together.

---

[3] These cost allocations were performed according to the SCRB definition that appears in the Federal Register. The specific equation and/or reference is available from the author. However, the difficulty is not dependent on specific interpretation of the equation or this specific example. It is a general problem with the SCRB methodology.

A rational cost allocation procedure should conform with this efficiency result.[4] However the SCRB allocations imply a different higher-cost (inefficient) project. Note that SCRB allocations to product groups 14, 24, 34 provide an incentive for separate, instead of joint production. Any of these three product groups can be produced at lower cost (than the SCRB allocation) by breaking from the four product project to produce as a group of two. For example, the SCRB allocation to the product group 1,4 is 7.35 + 10.39 = 18.29. But the group 1,4 can produce separately for only C(14) = 18.00.

The corollary to this problem is that the separable costs to the group complements (12, 13 and 23) are not covered. For example, the separable cost to the group 12 is 35 - 20 = 15. However the group is subsidized by the SCRB allocation because it only receives an allocation of 14.7.

The logic upon which SCRB is based ensures that each product receives an allocation at least equal to its separable cost of production. However, to the extent that SCRB logic is robust in the sense that it applies as well to product groups, SCRB allocations are inconsistent with the SCRB logic structure. In the above example, SCRB allocations may be viewed as providing an incentive for product groups to break from the cost minimizing means of production (group of four) by forming smaller but higher cost groupings. In this sense, SCRB allocations can be inconsistent with cost minimization criteria.

---

[4] Alternative methods of cost allocation, in which the estimation of the magnitude of benefits is not required, will produce Pareto-Efficient allocations consistent with least-cost means of production. For example, Shapley Value imputations for this example are:

Product Number	Shapley Value Allocations
1	7.5
2	7.5
3	9.5
4	10.5

It is no accident that these allocations are consistent with the least cost means of production.

Below Cost Timber Sales and Improvements in Forest Service Efficiency

by

David H. Jackson

Associate Professor
Forest Economics and Management
School of Forestry
University of Montana

Presented at the request of
Subcommittee on Forests, Family Farms, and Energy
House Committe on Agriculture
United States House of Representatives

June 6, 1985

I. BACKGROUND

Members of western Congressional delegations are facing new dilemmas concerning the politics of public land management. In recent years, some members of their constituencies have mounted opposition against a major, nondefense expenditure program--development of the National Forests. In states like Montana, the significance of the National Forests should not be understated. Not only do National Forest expenditures approximate $200 per capita, but existence of these vast federal wildlands contributes to the sense of isolation and attachment to the land and resources that are distinctive characteristics of the culture of the west.

As the below cost timber sales policy has become a major local issue in many western communities, its dimensions as an issue are more clearly definable. Like so much of the public land politics of recent years, the ethical values surrounding the issue pit replenishment of the human spirit through intimate contact with primeval and protected areas of natural splendor against more pragmatic opportunities to develop and extract commodities and services of value from the land. But the sales below cost controversy adds a new wrinkle to the debate. Must the federal government "subsidize" the destruction of the environment so as to maintain the employment of capital and labor in the resource development industries? It is this question of subsidy which so dramatically links the issue of land development to our current leading national issue--huge and unprecedented annual federal deficits. Many western Congressmen are caught on the horns of a dilemma. To fight to maintain Forest Service expenditures in their own districts is to fight against deficit reduction and for environmental destruction (at least in the eyes of some of their constituents).

Like most controversies that grow toward crisis proportions, the issues themselves become highly simplified abstractions of reality. The fact is that many, if not most, sales below cost represent unnecessary losses of public funds. This fact has only recently been recognized by some Forest Service officials and it now appears that the Forest Service is starting to take some of the most important steps toward solving the problem. In a memo of April 19, 1985 titled "Timber Sale Economics", Tom Coston, Regional Forester in charge of USFS Region 1 issued the following directive to the Forest Supervisors under his command.

> "When accessing areas of anticipated low or negative sale return, you should reevaluate our general guide of maximum initial development, which results in high initial cost and long term investment."

The maximum initial development mentioned in the memo refers to development of a transportation system into previously undeveloped areas and is at the center of the below cost sales controversy. Maximum initial development often means that miles and miles of road are constructed past perfectly good timber in order to bring an area "under management". Before paying more explicit attention to the wasteful investment practices which the Forest Service officially refers to as "accelerated roading", it is extremely important to highlight some of the recent historical events, beliefs and values that have preceded and to some extent produced the sales below cost controversy.

II. THE SOCIAL AND POLITICAL SETTING FOR THE BELOW COST TIMBER SALE CONTROVERSY

In many respects, the 1960's represent a turning point in the social philiosophy guiding the management of the National Forests. The beginning of what was to become perhaps America's most turbulent decade was marked by the passage of the Multiple-Use Sustained-Yield Act in 1960. The act itself really represented a Congressional ratification of the basic policy developed by the first Forest Service Chief and principal architect of American forest ideology, Gifford Pinchot. Pinchots's forests were managed on a more practical basis than they are now. Men chosen as custodians of the nations's uncharted timber estate had to be physically fit for the rigors of outdoor life, capable of leading crews of workers and able to assume roles of leadership in the small rural communities of the west in which they resided.

The postwar demand for wood products continued to grow in the 60's and National Forest administrators found themselves increasingly preoccupied with timber development activities. As the Forest Service found itself coping with greater demand for timber, the nation found itself increasingly involved with the war in Vietnam and the programs of the Great Society. As the American public was increasingly characterized as being "turned off" and alienated, there was a burgeoning growth in the desire to retreat to the nations "refuges". The need to remove primeval natural assets as necessary steps in developing renewable forest resources became increasingly clear in the 1960's and the desire to limit this depredation was recognized by the Congress with the passage of the Wilderness Act in 1964. By the end of the 1960's, the Congress passed NEPA, an act to reverse the decline in the nation's environment. Picking up on the theme of the 60's to involve citizens in their own destinies (community action programs in the war on poverty and Ralph Nader's consumer movement), NEPA called for citizen involvement as a step in environmental protection.

Actual forest management decisions became a turbulent issue after a report critical of National Forest administration was placed in the Congressional Record. A University View of the Forest Service (1970) resulted from a request by Lee Metcalf, the late distinguished Senator from Montana's Bitterroot valley, to investigate charges of poor management practices on the Bitterroot National Forest. The report, which is usually referred to as the "Bolle Report", is often misrepresented as simply an attack on clearcutting. In fact, the practices investigated were the combined use of terracing, clearcutting, and roading previously undeveloped areas. The report suggested that there was little evidence that dollar returns were sufficient to merit the massive capital expenditures, but the finding that "multiple use management, in fact, does not exist" threatened the Forest Service the most.

In response to the Bitterroot controversy, the agency moved rapidly to repair the damage done to its public credability. On the Bitterroot National Forest, clearcuts as large as 800 acres in size were replaced by clearcuts no larger than 5 acres in size. Road standards were improved to protect water quality, terracing was eliminated, and the National Forests were staffed up with nontimber professionals. Within five years following the Bolle Report, the Bitterroot National Forest had moved to uneven aged management of the forest and many other Forests in the Northern Rockies followed suit, although to a lesser extent than did the Bitterroot. Annual timber harvests were reduced significantly on the Bitterroot, Flathead and other National Forests. Many of these changes were instituted without much supporting scientific data. Few forests had cost accounting systems since the Forest Service simply reported appropriated expenditures in those days. By all measures of crisis management, the Forest Service was sucessful in squelching the environmental controversy. At the same time, Congress made some significant additions to the nation's wilderness system and the level of National Forest timber harvesting was maintained nationally. The National Forest budget grew at record rates as the period of environmental crisis became the golden era of its budget.

In many respects, both National Forest legislation and management of the 1970's and early 1980's represents reactions to the events and moods of the 1960's. Persistent demand for Congressional declaration of permanent wilderness areas continues to reflect a lack of citizen trust in the agency's ability to make judicious land use decisions as does the demand for wilderness release legislation.

Economic analysis has been given a more central role in resolving some of the conflicting land use claims. The National Forest Management Act (NFMA) of 1976 represents a case in point. For instance, Section 6k forbids the scheduling of timber harvests from lands unsuitable for timber production and suitability is defined by physical, economic and other pertinent factors. While it is true that there is more than one kind of economic analysis, the Forest Service has apparently chosen to use a harvest scheduling algorithm (FORPLAN) which schedules timber harvests on all lands necessary to meet (as closely as practicable), politically determined RPA goals. [Dennis and Teeguarden (1982), Hyde and Lemaster (1979) and MacCleery (1980]

The 1970's gave way to the 1980's on some seemingly sour notes. Commodity interests in the west initiated a Sagebrush Rebellion against a largely paper tiger--the loss of regional autonomy. The new President's requests for the largest buildup in military expenditures in the history of the world have been supported by the Congress as has the administration's supply side fiscal policies. So while the decade of the 1980's was expected to see Americans building new houses in record numbers to meet the demands of the post-war baby boom, it has instead become the decade of "timber buy-backs and bail-outs". Not only did mortgage rates soar to unprecedented levels, the international strength of the dollar discounted exceptionally high wage rates in the

Canadian lumber sector so that Canadian producers now "enjoy" about one third of our weakened domestic market.

The decade of the 1980's has become a time in which the need to reduce inefficiency in government is an overriding issue. The natural public land issue that has evolved is below cost timber sales. Although many of the National Forests have been losing money for years on their timber programs, only recent events have turned these losses into a political issue. Proposed solutions to the sales below cost controversy must recognize what has given rise to the issues. Furthermore, an unfounded belief that the National Forests are losing money because they have been strangled by arbitrary and overzealous environmental legislation could lead the National Forests back into the tumultous thicket of the 1960's, an event that only sadists could regard with glee. Thus, solving the sales below cost problem must break at least some new ground for National Forest administrators. To be sure, the nation sorely needs a profitable timber management program even more than it did in the 1970's and it appears doubtful that the Forest Service can sharply reverse their post Earth Day environmental accomplishments.

III. BELOW COST TIMBER SALES AND THE ANATOMY OF NONMARKET FAILURE

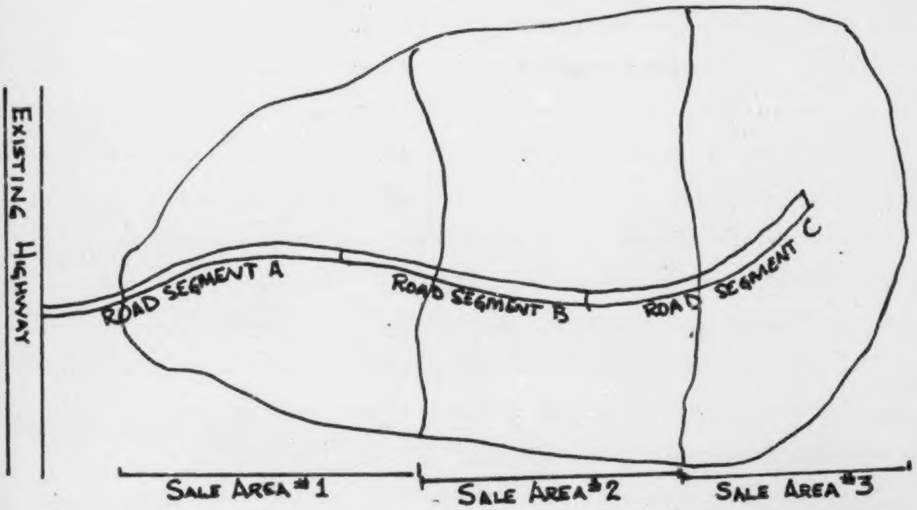
From the perspective of economic efficiency, some below cost timber sales are rational and others are not. A below cost sale is one in which the sale revenue is less than the agency cost to prepare, develop, and administer the timber sale project. In other words, immediate cash returns to the U.S. Treasury are less than the direct expenditures associated with the timber sale project. Some below cost sales are perfectly justifiable because of benefits produced which are not reflected in government receipts. Nonmarket benefits such as increments in water runoff and its subsequent value in use might justify a below cost sale. The investment nature of some timber sales or road construction projects might also justify a below cost sale. Here, investment returns that occur after the timber sale is completed might justify the below cost sale.

But many below cost sales are irrational expenditures of public funds. Development choices are often made at the expense of less costly courses of action. The case of accelerated roading mentioned previously is an extremely important example. Several years ago, Forest Service researchers analyzed the investment returns of accelerated road construction. They concluded that returns were too low to warrant these kinds of investments (Schallau, 1970). National Forest administrators have chosen to ignore the results of their own research for the past fiftenn years and the taxpayer has paid the price.

The essence of accelerated road construction can be shown by the map in Figure 1. The area in question is to be developed using three timber sales denoted as Sale Area #1, Sale Area #2, and Sale Area #3. One road artery consisting of road segments A, B, and C will eventually connect all of the sales areas to the existing highway.

The total area slated for logging can be developed in a variety of time patterns. For instance, a progressive pattern of

Figure 1


EXISTING HIGHWAY
ROAD SEGMENT A
ROAD SEGMENT B
ROAD SEGMENT C
SALE AREA #1
SALE AREA #2
SALE AREA #3

development can take place starting with Sale Area #1 and road segment A, then proceeding later to Sale Area #2 and road segment B and finally completing the development with Sale Area #3 and road segment C.

In contrast, the development scenario historically preferred by the Forest Service is "maximum initial development". In the purest form, this means selling timber as far away as possible from the existing highway in the initial sale. In Figure 1, this translates into Sale Area #3 with road segments A, B, and C. Until all of the areas are developed, this means that miles of road construction per million feet harvested are maximized in early budget periods. In analyzing accelerated roading in one of the most productive forest areas of the U. S., Schallau (1970) concluded "that the Federal Government must currently borrow money at a higher interest rate than that earned by the most 'optimistic' assessment of advance roading opportunities... . "

If anything, the real cost of federal borrowing has increased since the above words were written, suggesting that the returns to accelerated roading are worse than ever. Forest Service administrators are not in the habit of conducting investment analyses on road construction projects. Instead, justification of advance roading has been more intuitive. For instance, "bringing an area under management" makes it easier to suppress fires. That it may lead to more man caused fires in the area as well, is an item not frequently considered.

But recent research suggests another cost of accelerated roading. In a report developed at the request of the co-leader of the Montana State House of Representatives, Jackson (1985) showed that the average stumpage price of the large National Forest timber sales in Montana is much lower than the price of the smaller sales. The Forest Service Manual directs foresters to develop sales large enough to cover the development costs. Consequently, the larger sales have much higher purchaser road construction credits, temporary development costs, and use more costly logging systems than do the smaller sales. In turn, the larger sales receive fewer competitive bids and earn lower prices than do the smaller sales.

Advance roading policies will lead to lower stumpage prices as sale planners attempt to include more volume in the sales to help defray development costs. Forest Service stumpage prices in California and Washington are about $100.00 per thousand board feet lower than the price of timber sold by state agencies. In the states of Montana and Idaho, Forest Service timber sells for about half that of state timber. The Montana study indicates that a primary reason for the price differentials is the lower than average price of the large, complex, development-oriented National Forest timber sales. If the National Forests are able to reorient their sales development policies in Montana so that they are able to approximate prices of state sales, they would be able to raise another $20 to 25 million annually and also be able to substantially reduce their road construction expenditures.

While the previously cited study focused on sales in Montana, the basic policies which give rise to lower stumpage prices apply throughout the National Forest System. Thus, the potential price impacts of more orderly development are likely to be system wide. For instance, if the National Forests can earn another $100.00 per thousand board feet sold on 4 billion board feet of annual sales where rapid forest development is taking place, government receipts would increase by $400 million.

Apparently, sale location decisions, the resulting road investment decisions and timber prices have been treated as strategic decisions rather than investment decisions. The existence of timber sales and roads has served to bring certainty to the land base from the perspective of long term timber supply. But accelerated roading has not served to improve trust relationships between one of the most important federal agencies in the west and many of its complex publics.

Development of large roadless areas is a far more complicated issue than is suggested in the hypothetical example. Individual sales areas can be accessed from a variety of other directions and sale areas. Often the Forest Service has poor information regarding the timber and land conditions in large areas slated for development. In circumstances such as these, it is impossible to design an efficient transportation network. Roads are built in a myopic fashion from sale to sale with no apparent rationale for locating the best transportation system. More roads than necessary are built and more road reconstruction is done because roads are not designed in anticipation of the kinds of equipment that will have to be moved across them.

The lack of good transportation analysis and planning has been recognized by some engineers within the Forest Service itself. In an extremely well documented critique of transportation planning, Bowman (1982), a professional engineer employed by the Forest Service, states the following:

> Some of the persistent problems with National Forest transportation planning include:
> 1. Projects that do not dovetail with area development.
> 2. A lack of coordination and a resultant waste of effort and funds due to inadequate area planning.
> 3. Temporary roads that become system roads.
> 4. Using poorly qualified engineers for field reconnaissance.
> 5. Excessive reliance on complex computer solutions.
> 6. Too much time spent on collecting data and too little on analysis.
> 7. Roads that do not fit the terrain or the logging system.

8. Limiting planning to traffic analysis rather than resource analysis.
9. Not including the logging system and the costs in the plan.
10. Blaming field units for not accepting 'top down' direction for transportation planning.
11. Little on-the-ground review.
12. An excessive emphasis on road costs over other costs.
13. Decisions based on custom and convenience rather than logic and analysis.
14. Not enough emphasis on making less costly logging systems fit needs before using more costly methods.

The picture painted by Mr. Bowman of Forest Service Engineering is not very complimentary. He goes on to state that the result of these problems, which have persisted for 25 years, is costly management.

IV. WHAT CAN BE DONE TO IMPROVE THE MANAGERIAL EFFICIENCY OF THE NATIONAL FORESTS?

The underlying assumption of National Forest planning is that the agency which controls and manages federal lands can dispassionately allocate those lands in such a way so as to best satisfy the dynamic demands, wants and aspirations of the American public. In some important respects, this assumption represents an unrealistic view of the bureaucratic behavior of the Forest Service, in particular, but also of any large, complex public organization. Good resource allocation is not necessarily that which is good for the Forest Service.

In many respects, the land use planning responsibilities vested in the Forest Service under the Forest and Rangelands Renewable Resources Planning Act, or RPA, represents a unique experiment in land use planning in the United States. More typically, a local government body prescribes and controls the use of land (usually private) under its jurisdiction. The land use authority does not normally manage the land directly nor is its own budget directly dependent on land use decisions.

As turmoil over conflicting land uses grew in recent years, the Forest Service became increasingly enmeshed in the controversies. In effect, government became a party to the disputes instead of the dispassionate umpire planner that is envisioned for the Forest Service in RPA. Self regulation is not easily preformed. One observer recently referred to National Forest land use planning as the agency's Vietnam (Leman, forthcoming), thereby suggesting that the agency is bogged down in an American land war that can't (or won't) be won.

The Congress can most effectively aid the Forest Service by resolving the wilderness versus development controversies. Prompt and judicious wilderness designation coupled with release legislation will bring certainty to the land base and serve to reduce management costs because there will no longer be the bureaucratic incentives to treat forest road construction as strategic development decisions rather than investments.

Below cost timber sales are not the result of the new planning process developed pursuant to NFMA. The agency has been losing money on timber in many areas of the country for years. Most irrational below cost timber sales can be eliminated at the more site specific level of economic analysis called for in Section 6(g)(F)(ii) of the amended RPA. Forest plans should not be revised to solve the below cost sales problem. Accelerated roading and poor or nonexistant intermediate transportation analysis and planning have inflated agency costs and depressed timber prices. There is simply no way to handle the degree of data specificity required for intermediate transportation and timber sale design analysis at the overall forest level called for in Section 6(e) of NFMA.

Finally, from the perspective of efficient management, the Congress could clarify the legislation regarding the use of economic analysis in national forest management. This would in turn facilitate the definition of suitable lands in Section 6(k) of NFMA as well as provide a criteria for evaluating the amount of emphasis to be placed on "community stability". A brief entry into Section 2 of the amended RPA that would help immensely in this respect might read as follows. "It is the policy of the Congress of the United states that social efficiency is the guiding principle of National Forest management."

LITERATURE CITED

Bowman, John K. 1982. National Forest Transportation Planning. Mimeo. Chequamegon National Forest.

Dennis, Nicholas and D.E. Teeguarden. 1982. Identifying suitable land for National Forest timberlands. J. of For. 80:712-716.

Hyde, William F. and D.C. LeMaster. 1979. The marginal lands provision. J. of For. 77:19-21.

Jackson, David H. 1985. Why stumpage prices differ between ownerships: a statistical examination of State and Forest Service Sales in Montana. Mimeo. Montana Forest and Cons. Expt. Missoula. 28p.

Leman, Christopher. Forthcoming. Managing the National Forests.

MacCleery, Douglas. 1980. Identifying land unsuitable for timber production: what should industry do? National Forest Products Assoc. Special Report. 8p.

Select Committee of the University of Montana. 1970. A University View of the Forest Service. Senate. 91st Congress, 2nd Session. Document No. 91-115. U.S.G.P.O. 33p.

Schallau, Con H. 1970. An economic analysis of accelerated road construction on the Bureau of Land Management's Tillamook reource area. USDA Forest Service Research Paper PNW-98, 29p.

Major testimony points of
Dr. Glenn Petry

Problems with Forest Service accounting
- Lack of objectivity in showing benefits and costs
- Many off-site costs omitted

LACK OF OBJECTIVITY

CASE: Draft Environmental Statement for Cedars unit, Clearwater National Forest, Northcentral Idaho

1. Hydropower benefit claimed, actually a cost.
2. Claimed 2.4 secondary jobs created for every timber job. Actual is .5 jobs
3. Unexplained shift in road costs from timber to recreation.
4. PRIMARY TIMBER jobs defined as those produced by local activity.
   PRIMARY RECREATION defined as produced only from expenditures by individuals living outside of Montana and Idaho

OMITTED COSTS

1. Lewiston, Idaho. Snake and Clearwater Rivers
   PROBLEMS- Flooding danger and restricted port use
   60% Federal lands, 2,000,000 cubic yards of soil annually
   Cleanup cost-- up to $50,000,000 plus $4,000,000 annually
2. Loss of hyrdoelectric storage capacity
3. Cost of adding to peak flooding damage
4. Cost of hatcheries to replace fish lost
5. Loss to recreational and commercial fisherman and businesses selling to them.
6. Cost of stream gravel cleaning in fish spawning areas.

REMEDIES

1. Stop below cost sales in environmentally sensitive areas
2. Independent method developed for cost/benefit study which includes off-site costs.

Testimony before the Agricultural Subcommitttee on Forest, Family Farms, and Energy

Concerning Sales Below Cost by the Forest Service
by Dr. Glenn H. Petry
June 6, 1985

My resume is contained in my packet of information supplied to the committee, but just briefly, I am a Full Professor of Finance and Economics at Washington State University. For the record, I am speaking for myself and not as a representative of that institution. I have published about 60 articles and grant reports including six major grants in wildlife economics from the National Marine Service, Pacific Northwest Regional Commission, and National Oceanic and Atmospheric Administration.

I would like to make two main points today on the issue of sales below cost.

1. The Forest Service can not always be relied upon to present objective information when evaluating the economic benefits of timber versus non timber activities.
2. Many timber costs are not included in their analyses.

As an example, let me cite the Draft Environmental Statement done by the Forest Service on the Cedars Unit of the Clearwater National Forest in North Central Idaho. This 105,000 acre area is very near to the proposed Great Burn Wilderness area. Their Statement contained a detailed land management plan with 7 alternatives ranging from high timber harvest to very little harvest.

Let me cite five of the most glaring examples of the lack of objectivity in the Forest Service analysis.

1. A hydropower benefit was claimed because when the trees are cut down, more water flows down the slopes. However, when I questioned the timing of these extra water flows, they admitted that the extra water comes during the spring runoff when there is already surplus water in the system. Furthermore, the water flows would be reduced during the summer when they are needed the most. In addition, by claiming such a benefit the Forest Service was admitting that logging contributes substantially to flooding in some areas. What they claim as a benefit is in reality a cost.

2. It was claimed that each primary timber job would create 2.4 secondary jobs in the local economy. According to economists at the University of Montana, the true multiplier was closer to .5 or about 1/5 of their claim.

3. There was a rather dramatic and unexplained shift in road costs in the plan. At the time that the plan was drafted, 62% of the existing roads were classified as those which allocated most of their cost to timber. Despite a tripling in the amount of logging planned and a vast expanse of new roads for the harvesting, the preferred alternative showed 77% of the roads as being of the type which allocated a significant portion of the costs to recreation.

4. The number of recreational days was assumed to be the same under all seven alternatives despite the fact that the alternatives ranged from intensive logging to almost no logging.

5. The Forest Service correctly defined primary jobs from timber as those that were generated from local logging activities but

incorrectly defined jobs from non logging activities as only those being generated by expenditures from residents outside of Montana and Idaho.

Despite these and numerous other descrepancies and manipulations, the benefit/cost ratio of the alternative involving the least development was dramatically higher than any other alternative.

Off-site Costs Omitted by the Forest Service

I would now like to comment on significant off-site costs caused by poorly designed logging, mining, and over-grazing activities on Forest Service lands which are rarely in any economic sense included in their management plans. Some of these can involve substantial short and long run costs for the public. Most of the costs are either caused by erosion which is very prevalent in the steep terrains and highly erodable soil common to the western U.S. or by peak spring runoff flows which are raised by logging especially clearcutting.

1. Cost of dredging shipping routes filled with eroded soil. On this point, I would like to cite the case of Lewiston, Idaho which is at the confluence of the Snake and Clearwater Rivers. Approximately 60% of the watershed of these rivers involves U.S. Government lands. About 2,000,000 cubic yards of sediment is coming down the 2 rivers each year, and 40% is being deposited near Lewiston. The sediment build-up is so bad that Lewiston will soon face severe flooding danger, and barge traffic from the Pacific Ocean and the Columbia River is having difficulty reaching the port fully loaded. Depending upon the remedy used, estimates range up to $50,000,000 to correct the problem with additional annual dredging costs of $4,000,000.
2. Cost to recreational and commercial fisherman and businesses selling to them for reduced fish populations and fishing time as a result of sediment and higher stream temperatures. Sediment smothers fish eggs and reduces insects in the water. Logging can substantially raise stream temperatures.
3. Cost of public hatcheries to supplement fish runs.
4. Cost of state personel to attend and plan meetings to deal with problems such as erosion control measures, sportsmen access in logging areas,etc.
5. Cost of stream gravel cleaning in fish spawning areas and erosion control measures of state agencies.
6. Cost of clearing logging and other debris and eroded soil from culverts, gutters, streams and reservoirs.
7. Cost of maintaining public roads because of damage from logging trucks not fully compensated for by that sector.
8. Cost of losing growing capacity from soil eroded away.
9. Cost of replacing hydroelectric power from reservoirs whose water holding capacity has been reduced by eroded soil.
10. Additional cost of loss to private and public property caused by higher peak flooding flows from poor logging and grazing practices.
11. Cost of losing and replacing a clean water supply.
12. Cost of loss of elk and deer which can be reduced in poorly managed areas.

Suggestions for Improving Accountability

I have 2 suggestions for improving the problems identified.

1. For areas with significant non timber values or highly erodable soil, I would suggest that in the short run, the Forest Service suspend all timber sales where revenue does not cover road costs and I would argue for a figure 20% above road costs.
2. The Congress authorize an independent study to eliminate the capricious cost/ benefit accounting by the Forest Service and which includes a method of estimating these off-site costs, at least the principle ones.

An Assessment of the Draft Environmental Statement
Cedars Planning Unit
Clearwater National Forest

By

Dr. Glenn H. Petry*
Full ~~Associate~~ Professor, Finance
Washington State University

*This represents my own opinion and not necessarily that of Washington State University

INTRODUCTION

The purpose of this statement is to indicate the errors in methodology, philosophy, omission, and interpretation in this draft environmental statement.

Water Yield Increase From Logging

Since the claimed water yield increase resulting from timber harvesting represents from 1½ to 7 3/4 times the benefit from timber harvesting alone, it is important that more information be provided about the calculations. Since the Forest Service is managing the timber cutting for timber and not hydroelectric power, there are serious questons about the benefits claimed.

Unless most of the cutting occurs on the north and east facing slopes along with other techniques to maintain lower peak flows and higher flows in the summer, it seems possible that you may end up with higher peak flows and lower summer flows. This procedure will increase flows when water is not needed and decrease flows when it is needed. You might partially compensate by increased drawdowns of Dvorshak Reservoir but that would disrupt and reduce the net economic value of recreation both within and below Dvorshak Reservoir. It would be particularly detrimental to the steelhead fishing and would suck a lot of fish through the turbines.

If you claim this water yield increase from timber harvesting, it is essential that you provide the following information:

1. Monthly estimates of water yield increase or decrease for each alternative.
2. Location and types of cuts so we can assess the validity of these water yield increase claims.
3. Extensive literature documenting flow increases in areas with terrain, elevation, moisture content, and soils similar to the Cedars unit. It is my understanding that there is not much information of this type for areas like the Cedars.

4. Extensive literature documenting the distribution of flow increases by month with the harvesting techniques and location of cuts. If the flows are substantially increased in the spring and reduced in the summer, any net increases will be considerably less valuable and in fact could cause a net loss depending upon storage capacity and hydroelectric prices during the spring and summer.
5. Assumed hydroelectric prices received by month for flow increases.
6. Assumed prices of replacement power purchases during the summer for any water that could not be stored (if the summer flows are reduced over the existing situation.)
7. Management plan for increased water releases of Dvorshak Reservoir so that the impact on recreation within and below the Reservoir can be assessed.

The increased flows from logging will in general reduce the fish populations and growth rate above Dvorshak Reservoir and cause some siltation into the Reservoir reducing hydroelectric capacity. However, depending upon the size and type, and location of cuts, this damage could be further increased especially if peak flows are raised and summer flows decreased. If peak flows are raised, then there will be additional brush and trees washed into the Reservoir. Furthermore, unless you can document that the peak flows are not increased, then you are essentially admitting that logging contributes to flooding and the Forest Service must correspondingly begin assessing flood damage in areas of the United States where there are no protective dams and peak flows are increased.

In any case, the damage and the associated costs like replacing fish must be assessed to logging. Furthermore, in order to assess the impact upon the Reservoir users, net impacts from hydroelectric power generation, and steelhead fishing below the Reservoir, it is essential to know the logging plans for the whole North Fork watershed. The steelhead fishing below the Dvorshak Reservoir depends for several months in the spring upon clear water coming out of the Reservoir since the main fork is often muddy. Therefore, a general overview of the whole planned North Fork activities are required.

Furthermore, only the water yield increase proposed for logging new areas should be included not that which occurs above natural flows, (footnote 39). From the water yield increases shown for Alternative 1, which involves very little logging, it is apparent that increased flows from existing logging operations are included as a benefit for the plan. In addition, it is presumed and it should be so stated that the water yield increases calculated do not include flows from logging.private land . Since logging will decrease transpiration into the air, it should be pointed out whether this will reduce rainfall somewhere else and cause economic losses there.

I would also be interested in a reconciliation of the Cedars Unit claim for water yield increases with that of the Sullivan-Salmo Unit in Pend Oreille County, Washington and Boundary County, Idaho where a substantial timber harvest is recommended. It states "Water yield from the planning unit is expected to be maintained near present levels under all alternative plans." (p. 36).

Primary and Secondary Employment

There is a substantial overestimate of the number of secondary jobs and secondary income as related to one basic job in Mineral County. On page 11, it states that "One basic job generates 2.4 additional service jobs in Mineral County," which translates into a total multiplier of 3.4. According to the

Montana Supplement to USDA, United States Forest Service Environmental Statement-RARE II (June 15, 1978), the total multiplier for the multi-county area of Western Montana including Missoula and Mineral County is only 1.9. Although no estimates for Mineral County are available, its major retail and wholesale trade center is in Missoula. Thus, the Mineral County multiplier is considerably lower and is probably around 1.5 according to Dr. Thomas Power, Department of Economics, University of Montana.

The relationship between primary and secondary employment is not too well defined and it is particularly vague in the case of lost logging employment (Alternative 1 only). If a logging job were lost, the short run effects on secondary employment would not be very noticeable because most purchases of Mineral County residents in Mineral County are low priced necessities. In the long run, it would depend upon the availability of alternatives. If some long run lower paying employment were available to the loggers, then there would be little effect on secondary employment in Mineral County since necessities would still be purchased here.

Furthermore, the income multiplier is even less than the employment multiplier because of the lower pay scales in the service industries. The income multiplier in Mineral County is probably only about 1.4, or about 80 percent of the employment multiplier. The secondary portion of this is only $.40 per $1.00 in primary expenditure or only 1/6 of that claimed on page 11. Furthermore, the loss of this secondary income (Alternative I only) is in the long run and assumes that the unemployed logger finds no alternative or has no other type of employment.

There are a number of inconsistencies in the report which need to be corrected. The statement on page 11 about the secondary employment multiplier is not consistent with the calculations in Table 6. In another case on page 79, the report in reference to Alternative 2 states, "Selection of this alternative would result in little change in resource commitments from the existing situation.

Commodity production would be sustained at a relatively low level." Yet in reviewing Table 6, it is apparent that total timber harvest is increased 73 percent over the current level.

Table 6 should be redrafted. As it is now constructed, one has the impression that jobs and income will be lost when in most alternatives, there are gains. Therefore, the "existing situation" should be shown as 0.0 and the net changes calculated from this figure. It is the existing situation with which we want to analyze changes not some outmoded plan. A casual observer would be inclined to believe that Alternative 2 would result in a loss of 85 jobs but instead it represents a gain of 38 (although the latter figure would need to be corrected for the multiplier error.)

Road Maintenance Costs

According to Ed Butler of your staff, the following percentage of road maintenance costs are assessed for recreation and administration and timber.

TYPE OF ROAD	RECREATION AND ADMINISTRATION	TIMBER	TOTAL
Arterial	20	80	100%
Collector	44	56	100
Long-term local	61	39	100
Short term local	20	80	100

My first point is that since the preeminent reason for opening up the area is for timber harvesting, most of the costs should clearly be assessed to timber. Most type I and II and some Type III recreationists who understand the ecology of the area would not support much development.

The second point is that under the proposed Alternative 5a, 77 percent of the roads will be classified as collector or long-term local which happens to be the type of roads which have the lowest cost allocated to timber. By contrast, 42 percent of the existing roads are short-term local and 20 percent are arterial which have the highest cost allocated to timber (see Table 6 in your report). I could not find a good explanation for this in the report and it would be helpful if you would explain this shift which in effect lowers the cost to timber.

Costs of State Officials

It seems likely that officials of Idaho Department of Fish and Game will have to expand money to monitor the effects of logging operations and to attend meetings to deal with erosion problems, fish replacement activities, and sportsmen access. This is a real cost to the sportsmen of Idaho which should be recognized. This is likely to be significantly greater than any problems caused by not logging.

Value of Stolen Timber

There is likely to be some timber stolen. It should be noted in the environmental statement and some percentage subtracted.

Value of Recreational Expenditures in Mineral, Clearwater, and Idaho Counties

Your definition of primary income as being generated from persons living outside of Idaho and Montana is incorrect and understates the value to the compact area of Mineral, Clearwater, and Idaho Counties. The primary income should be that generated by persons living outside of the aforementioned counties which would considerably increase the value to the three impact counties.

It also should be pointed out that while the recreation dollars generated from residents within the tri-county area may be viewed as secondary expenditures, they are real expenditures creating real impacts. They should be identified.

Number of Recreational Days

On page 67, the same number of visitor days is projected in the year 2,000 for all alternatives in the Cedars unit. According to John Cleeves, the rationale for this is that the area is remote and changes are not likely to have much impact on total recreation. This is a unique area with special attractions. It doesn't seem likely that with the increased logging trucks, smoke and visual and physical impact of logging that recreation will be the same under all alternatives, particularly those involving the high volume timber cuts. It seems likely that those alternatives which maintain the high amenity values are likely to attract the most people. After all, how many people want to drive such a long distance to a logged area with lower quality hunting and fishing when there are many such areas close by?

Futhermore, the assertion (p. 66) that each alternative will increase the number of hunting and fishing days (Type II) by 3-4½ times over the current road system in the year 2,000 is unsupportable since Alternative 1 involves a reduction in roads and Alternative 6 a vast extension which would seriously impact hunting and fishing.

Your total value of recreational days of hunting and fishing (Type 2) is considerably understated. Your 1978 estimate of Type 2 recreation is only 7,750 (page 15). According to Sam McNeill, Regional Game Manager for the Idaho Department of Fish and Game, the total number of days spent hunting in the Cedars unit during 1978 was 5,100. Wes Cannon who handles the fishery section felt the number of days spent fishing was considerably greater than that. Beyond that, your projections for a 1.1 percent annual decrease in visitor days for Type 2 recreation until the year 2,000 under a roadless state is not very realistic (p. 15). The use of linear regression to make projections must be used cautiously in any case but it should not be used at all in this case. Another factor that casts doubt on your Type 2 use in the year 2,000 is the 30-40 percent expected increase in population in Idaho and Montana.

Essentially, the Forest Service predictions show an unsupported and unrealistic decrease in the number of days of Type 2 recreation in the year 2000 with the loss picked up as an increase in Type 3 (auto driving, picnicking, primitive camping) recreation. Since Type 2 recreation is valued at $20.04 per day and Type 3 at $7.48, the net effect is to slant the value of recreation as being substantially higher with logging even while assuming total recreation days are the same.

The number for recreation demand looks like a forced fit to a meaningless and arbitrary total number of days rather than being based on a reasonable assessment.

You also should note in the report that one of the main causes for the decline in elk herds in the Cedars unit is that the Forest Service put out most of the forest fires preventing the regeneration of forage. It is rather perplexing that the Forest Service would contribute to the decline of a resource and then say it was therefore worth less. Then forecast this decline to continue for another 20 years unless roads are put in and that the roads would cause an enormous increase in use.

Roadless Areas and Timber Supply and Demand

A significant proportion if not most of the 36.4 million acres of roadless areas recommended for non-wilderness status by President Carter will be developed for mining and timber harvest. This means that there will be an increasing area devoted to timber and a decreasing area for high quality Type I and II recreation. Thus, the relative non-economic and net economic values of roadless areas will increase relative to timber. Since you are using current values for timber and recreation, this change in supply and demand is not reflected in your analysis and should be.

Recreational Quality

Although there is some mention of amenity values, there are some substantial losses in the quality of outdoor experiences. Because of sportsmen access, the trophy big game hunting, and quality fishing, and primitive experiences will decline substantially under Alternative 5a. Furthermore, crowding in the remaining roadless areas will become more prevalent. This has an economic transfer cost because most people in the Pacific Northwest are trading some income for the quality of life. When you reduce that quality of life, you in essence reduce their income.

Conclusions:

This environmental statement for the Cedars Unit overstates the benefits of logging and understates its costs. It also understates the value of recreational benefits. More information must be provided, and the study needs a greater degree of objectivity.

VIRGINIA FOUR WHEEL DRIVE ASSOCIATION

Testimony of the Virginia Four Wheel Drive Association to the House Subcommittee On Forests, Family Farms, and Energy Hearings On Below Cost Timber Sales

The Virginia Four Wheel Drive Association is a statewide advocate organization of four wheel drive owners and clubs. Our membership comes from all regions and walks of life and is united in our interests in outdoor recreation. Our sport is a means to hunting, fishing, camping, exploring remote areas of the National Forests, and enjoying the aesthetic values of our natural resources. Not only do we pay taxes, we comprise a substantial portion of the users of the National Forests of this region. We have been deeply involved in the Land and Resource Planning process of both of the Forests in Virginia. Consequently, the problem of the current and planned timbering and road building policies of the Forest Service concern us greatly.

The cost/benefit ratio of the roads being planned and built concern us as taxpayers. There are few benefits other than timbering access because 88% of these high standard roads will be closed to the public according to the plan. This negates any recreational benefits and there are few or no others according to the McClure Report. The Forest Service should not be in the position of subsidizing the timber industry.

As a former resident and frequent visitor to the Giles Co./Craig Co. area, I have witnessed personally the effects of these practices. We gave a slide presentation to the staffs of Congressmen Olin and Boucher on these effects. Often the results of clearcutting(the only method we see used) resemble the aftermath of Mt. Saint Helens in an area of marginally productive forest. This is evident in Roland's Run and Hebron Church cuts near New Castle, VA. Near Mountain Lake in the Bailey's Gap loop, the Forest Service has begun cutting an old, stunted hardwood forest mostly above 4000 feet and constructed a high standard road across a huge previously roadless area to service the timbering. A good existing road would adequately suffice if the Forest Service had not discontinued maintenance about ten years ago or if it was currently cared for. This cutting is only several hundred yards from a Federal Wilderness Area and the Appalachian Trail. Because of severe climate and short growing season(near Artic conditions in winter) in this high altitude area, this damage will not grow back for centuries. There will never be any more virgin timber stands and there are no plans to spare these if they lie in a planned timbering area.

Often these high standard roads destroy good stable ORV routes(jeep trails, old woods and wagon roads, etc.). Where adequate access existed, the new roads destroy because they usually are closed after the timber sale. This closure rate is probably near 100% from my experience in the Jefferson National Forest. Adjoining Orv opportunities are usually closed in the vicinity of these areas. This is demonstrated around Bailey's Gap where now virtually no ORV roads remain open where there were few closed ten years ago.

Because of these problems, we have advocated a solution that would classify the National Forest into two categories which would not change existing classifications. The more ecologically fragile high altitude(top 25% of elevation)areas, unique natural areas, featured species areas, all virgin timber stands, and other significant areas chosen would be classed in Restricted Recreational Use Areas as opposed to General Use Areas to be managed for other uses.

Some suggested guidelines are as follows:

a. These areas would be exempt from any commercial developement such as logging, drilling, mining or the like.

b. All types of recreation would remain unchanged and these areas could contain all ROS categories.

c. High altitude (above 3000') areas would be targetted for consideration because of slow growth rates and unique ecology. All virgin timber stands and high mountain bogs would be included amoung other unique natural areas. These should remain reasonably accessible to a wide sector of users.

d. This category would mandate no further road building except to service existing facillities or emergency needs.

e. These areas would emphasize use of existing opportunities(as we have always emphasized) rather than building new ones, maintenance rather than construction.

f. A substantial system of ORV routes should be recognized and maintained legally open to avoid overuse of fewer routes. An ORV guide should be established to educate users on their responsibilities and the consequenses of their actions as well as the need for proper equipment to match the difficulty of the terrain. It is impossible to make the forest "idiot proof" and care should be taken to require proper safety on the part of users rather than close off everything in hope that no problems can occur. This guide can be developed to rate trails as to difficulty to allow a system of ORV routes of all difficulties to be safely administered.

g. It is desirable that this system of ORV routes be left in their natural state where possible. Problem areas could be repaired with user-cooperative programs. This would incur the minimum cost to the Forest Service.

We also include a copy of our submission to the Land and Resource Management Plan of the Jefferson National Forest to detail this and related problems we are working to solve. We appreciate the opportunity to air our views.

VIRGINIA FOUR WHEEL DRIVE ASSOCIATION

Input To the Land and Resource Management Plan

Purpose

As a statewide advocate organization composed of individuals and four wheel drive clubs, it is our objective to encourage responsible enjoyment of four wheel drive vehicles. Unfortunately, most people do not realize that the use of an ORV(four wheel drive vehicle) is not an end in itself recreationally, but a means to penetrate remote areas of the National Forests on primitive roads and jeep trails to hunt, fish, observe wildlife, reach hiking and camping areas , and experience the varied natural aesthetic values which only a vast National Forest can offer. Only through conservation and cooperative use of public lands can a workable compromise be realized between the many competing interests that place demands on the resource. The most constructive attitude we have found is to work together and maximize the recreational benefits to the widest sector of public land users rather than have the various user groups working for their sole benefit at the expense of majority. A policy of conservation through multiple use management is far more productive for the majority of users than a closure-oriented attitude of preservationism. The following policies will better integrate the ORV users with others in the National Forests.

1. In past years a policy of open unless designated closed has been successfully administered with respect to unimproved and jeep roads. Most jeep roads are rocky and,unless very steep, subject to little erosion ard wear even with regular use. Many jeep roads we know have undergone no significant change in fifteen years of regular use. You have stated as well as other members of the Forest Service that these roads incur no maintenance costs as what little work is needed to keep them open is performed by the user(e.g. removal of a fallen tree or rock). The only costs to the Forest Service is maintaining the rapidly increasing number of closure devices(gates,tank traps,signs,etc.). The proposed policy of closed unless posted open will not reduce these costs, but lead to an impossible law enforcement problem as well as increasing sign costs. There is also no logical reason to place users in the middle of a confusing legal situation over what will be legal or not to travel. Many localities enforce laws differently, as usually there still will have to be a closure sign posted to get a conviction in some areas.

Some rangers have expressed to me that these policies work poorly in other locations and see no reason to make a similar mistake. This will place the burden on the user to prove the route is legally open if a question arises, and this is contrary to normal justice. There seems to be no logical reason to enact this policy except to deny a large sector of users a longstanding, established recreational access to remote areas of the forest which is recognized by Executive Order 11644.

2. We would like to see a re-evaluation of the criteria for determining whether a road should remain open or closed. It is obvious that the closure rate is growing exponentially, usually on very flimsy grounds. This is an unfair limitation on the recreational access opportunities of one group while you give carte blanche to certain small but vocal groups that comprise only a tiny minority. I challenge you to set up a process to reassess all unimproved/jeep roads such that we can work together to provide a more reasonable closure level. Often someone unfamiliar with ORV use and safe capabilities would misjudge a road unsafe from the standpoint of driving a car rather than an ORV. We could help in this task if a framework can be established to discuss these. The United Four Wheel Drive Assocs. is creating a universal trail difficulty rating system which we are taking part. This could be of use in establishing a rating for ORV routes to avoid problems.

3. There are other ways to help users from getting "in over their heads" on these ORV routes. Perhaps a low tank trap could be placed at an entrance to limit the trail to vehicles of the required clearance. This and other services could be assisted through Adopt-a-trail programs. Our organization could act as a clearing house for suggested candidates to expedite groups' involvement. We are currently setting up meetings to discuss this with various district rangers. Through these efforts the amount of closures could be gradually reduced.

4. . We would favor implementing some form of "green sticker" such as exists in California if this nominal fee is contingently used to maintain and increase ORV opportunities for recreation in the National Forest.

5. I challenge you to work with us to create a general program consisting of the above three items and other policies to convert your general management of the Forest from a closure-dominant policy to an ORV user-friendly system flexible enough to allow meetings locally and resultant change over the next planning period. I believe local rangers would welcome this because it would at least get people talking to each other. From the Blacksburg meeting I see the same problems that exist in the George Washington Nat. Forest. The level of ORV users is fixed while your closures increasingly limit the ORV opportunities remaining open. The result is increased use, wear, erosion, rutting and other problems. This was recognized in the Lee District meeting in the G.W. by all groups. Correspondingly the violation of closed roads and closure devices increases, and also your maintenance costs. Much of this is from local users with whom there is little or no communication with the rangers. We would like to assist in public meetings with local ORV users, but I do not feel they will accept this unless your office is willing to be responsive to their interests. A glowing example of this is the problems with Baileys Gap Road near Mt. Lake. This road suffers from overuse because almost everything else has been closed, mostly in the last 10 years. When part of this is closed as planned the problems will mushroom, not be solved. There is an alternative to this "solution".

6. The released RARE II lands from H.R.5121/S.2805 should be managed as multiple use areas which would include openning ORV routes closed when they were classed as Wilderness Study Areas. This was the intention of the release language of these bills as well as the sponsors, such as Sen. Warner who stated this at the hearing. Let there be no further wilderness land, whether federal designated or just managed as de facto wilderness! There is already more than enough, because already 27% of possible federal recreation land is managed as wilderness.

7. A reasonible compromise must be reached over the issue of user conflict with respect to the Appalachian Trail. The current policy is totally asinine. The percentage of National Forest users who travel this trail is only a tiny minority, yet they are caterred to to a ridiculous length. From Afton Mt. to the VA-NC line, the A.T. coincides with some type of road at 292 increments according to my count from the official A.T. guide. It runs through the towns of Pearisburg and Damascus, as well as some distance on US 460, 220, 11, and Va 42. At none of these developed spots is there recognized any user conflict, yet at any coincidence with a jeep trail, the jeep trail is always closed. This philosophy on user conflict must be changed. The A.T. has been oscillating around the mountains since 1955 at least, and as much as 35 changes in the Blacksburg District alone. This must stop! A permanent location should be established and any user conflict should be settled on the basis of which was existant first. Private land condemnations must not be employed to acquire land for the A.T. corridor, as this tactic is more appropriate to the USSR than to treating American citizens. As part of a review of ORV routes, all closures because of the myth of "user conflict" should be reassessed and resolved as above.

8. We would like to see a reconsideration of the stated plans for timbering and the corresponding increase in roads. We strongly oppose these roads on several grounds. They represent an effective subsidization of the timber firms because of the scandalously low timber revenue return compared to the cost of building the necessary access roads(often 8¢ on a dollar of road costs). The McClure report examines the alternative values of these roads, yet states that in 1983, 91% of these roads were built to service timberring solely. The recreational access value must be discarded because of a proposed 88% closure rate. There is also little or no funding examined to maintain these roads over their projected 50 year lifespan, while there is insufficient funding to maintain existing roads. The negative effects to wildlife habitats and aesthetic values cannot be estimated. The further loss of ORV opportunities is even more appalling to us. There simply cannot be any logical justification for these proposals.

9. An alternative to the above proposal discussed in #8. is to establish a new category of management as Restricted Recreation Use Areas. They could be selected by the following guidelines as well as any changes added later.

a. These areas would be exempt from any commercial developement such as logging, drilling, mining or the like.
b. All types of recreation would remain unchanged and these areas could contain all ROS categories.
c. High altitude (above 3000') areas would be targetted for consideration because of slow growth rates and unique ecology. All virgin timber stands and high mountain bogs would be included amoung other unique natural areas. These should remain reasonably accessible to a wide sector of users.
d. This category would mandate no further road building except to service existing facillities or emergency needs.
e. These areas would emphasize use of existing opportunities(as we have always emphasized) rather than building new ones, maintenance rather than construction.
f. A substantial system of ORV routes should be recognized and maintained legally open to avoid overuse of fewer routes. An ORV guide should be established to educate users on their responsibilities and the consequenses of their actions as well as the need for proper equipment to match the difficulty of the terrain. It is impossible to make the forest "idiot proof" and care should be taken to require proper safety on the part of users rather than close off everything in hope that no problems can occur. This guide can be developed to rate trails as to difficulty to allow a system of ORV routes of all difficulties to be safely administered.
g. It is desirable that this system of ORV routes be left in their natural state where possible. Problem areas could be repaired with user-cooperative programs. This would incur the minimum cost to the Forest Service.

We endeavor to submit viable alternatives where we find fault with the preferred plan you espouse. This is done in an attempt to increase a good working relationship we feel we have already established with your office. We wish to increase the ORV recreational opportunities in a way to integrate them with those of other groups rather than limit those of any group. There are better alternatives to the current balance which favors small vocal groups at the expense of the majority. The abuses of the few should not destroy the opportunities to the many, and we should work to solve the problems rather than lock off the places where the problem exists. We challenge you to find an alternative to the present closure oriented policies!

NSBA

NATIONAL SCHOOL BOARDS ASSOCIATION
1680 Duke Street, Alexandria, Virginia 22314
(703) 838-NSBA

TESTIMONY
on behalf of the

NATIONAL SCHOOL BOARDS ASSOCIATION

on

THE ECONOMICS OF FOREST SERVICE TIMBER SALES

before the
HOUSE AGRICULTURE SUBCOMMITTEE ON FORESTS, FAMILY FARMS, & ENERGY
U.S. House of Representatives

Submitted for the Record
June 6, 1985

TABLE OF CONTENTS

Preface 1

I. Introduction 2

II. Historical Background 2

III. Statistical Data 4

IV. Specific Data Gathered from School Districts in Idaho and California 4

V. Highlights of Responses from Idaho 6

VI. Highlights of Responses from California 7

VII. Conclusion 8

Preface

The National School Boards Association (NSBA) appreciates the opportunity to submit this testimony for the record.

NSBA is the only major education organization representing the nation's 95,000 local school board members. These locally elected board members, and the school districts they represent, are the direct beneficiary of Forest Service receipts percentage payments. As their national representatiave, NSBA is fully cognizant of the nature and extent of the impact these payments have on local communities.

Currently marking our 46th year of service, NSBA's purposes include: strengthening the local governance of school districts, promoting access to the highest quality of public education for all Americans, and developing cooperative strategies with other governmental units to finance and serve the public good. Generally, local school board members are elected (96%). Accordingly, they have direct political accountability to their constituents for both public policy and fiscal management. As public officials, school board members, like other governing officials, address public policy without consideration to professional vested interests.

I. Introduction

Hundreds of school districts across the United States depend, in whole or part, on the percentage payment of Forest Service receipts for their daily operation. Because of the major role these percentage payments play in the budget process of so many of this nation's public schools NSBA's testimony is divided into three sections:

- Historical Background (16 U.S.C. 500)
- Statistical Data on Percentage Payments to States
- Specific State Impact — Idaho and California

II. Historical Background

Traditionally, public lands were made available to the citizens of a State by the United States for settlement and development. But, in 1891, Congress extended to the President the authority to permanently set aside and reserve those public lands bearing forests (16 U.S.C. 471) for improving and protecting those forests and to secure favorable condition of water flows as well as a continuous supply of timber for the use and necessities of the citizens of the United States (16 U.S.C. 475).

The permanent removal of public lands from future settlement and development was of grave concern to States which had not yet fully realized their growth potential. In 1908, Congress attempted to address those concerns by mandating a payment from the U.S. Treasury to States with communities situated in or adjacent to a national forest (16 U.S.C. 500). Those payments were to be based on 25% of the gross receipts paid into the U.S. Treasury by the Forest Service.

The basis for this percentage payment rested primarily on two principles of public policy. Those principles were articulated at length in the Senate floor debate concerning passage of 16 U.S.C. 500:

1. Local communities were established with an expectation in the availability of adjacent public lands for future growth and development. Creation of the National Forest set aside permanently deprived those communities situated in or adjacent to a National Forest from reaching their full potential, an opportunity theretofore available to all communities throughout the United States.

   Legally, the abolition of the right to settle public lands could be resolved in only one of two ways: Specific performance, i.e., open the National Forest set-asides to settlement or, alternatively, a payment in lieu of settlement (Congressional Record — Senate, May 11, 1908, at page 6059).

2. The creation of National Forests permanently deprived local communities of the ability to tax those reserved lands, although those same communities still had to carry the full burden of public services such as schools, roads, courts and police. Thus, a payment in lieu of taxes was necessary to offset the burden imposed on local communities by creation of a National Forest on public lands which the community had an obligation to service.

III. Statistical Data

In 1983, 40 states and the Territory of Puerto Rico received payments from the U.S. Treasury under the auspices of 16 U.S.C. 500. Those payments, which totalled approximately $193 million, represented receipts paid into the U.S. Treasury by the Forest Service from management of approximately 188 million acres of National Forest lands (Exhibit A, attached).

Percentage payments made to the State by the U.S. Treasury are to be paid over to local communities situated in or adjacent to a National Forest (16 U.S.C. 500). Restrictive allocation of the percentage payments mandates their use for the benefit of public schools and roads.

A State is free to statutorily establish a percent allocation between public schools and roads. At least one State, Virginia, allocates the full percentage payment amount to benefit public schools. The majority of the States allocate over 50% of their payment for the benefit of public education (Exhibit B, attached).

Twenty-eight of the States benefitting from 1983 percentage payments from the U.S. Treasury received in excess of $500,000, while 12 States received payments in excess of $5 million.

IV. Specific Data Gathered from School Districts in Idaho and California

NSBA gathered data from a number of school districts in Idaho and California — including those where the percent of school district revenue derived from the reserve program was greater than 10%, and in a few cases, between 30 and 60%.

The significance of these figures is even more substantial when it is recognized that school districts have a very small amount of discretionary funds.* Moreover, because school district budgets are 75% committed to salaries, any retrenchment of cuts means losing teaching staff with the additional burden of having to pay unemployment compensation, which adds to further financial drain on school systems.

Since Idaho is rated as one of the lowest in the nation in funding per pupil, it is important to realize how critical the timber revenue is for school finance and how devastating a cut could be in a state so dependent on forest funds. Because of substantial cutbacks in state and federal funding, and because of an inability to pass overrides in an economically depressed area, every effort needs to be made to maintain timberland monies, as schools do in fact benefit. In California because of Proposition 13, local school districts would have difficulty raising revenue to replace what is lost from federal timber receipts -- even if local taxpayers were willing to spend more.

NSBA contacted thirteen superintendents from school districts in Idaho, and over 100 school districts in California responded by mail to NSBA's survey on the application and necessity of timberland monies for education. Though we hear from many school districts, we focused primarily on those who reported that their timberland revenues exceeded 10% of their total revenues. Verbatim highlights of Idaho phone interviews and California letters follow. A chart depicting the unabridged responses to the questions from a sampling of Idaho school districts is attached as Exhibit C.

---

* On a national basis over three-fourths of the typical school district budget is utilized for salaries, with additional funds used for such fixed costs as debt retirement, and for mandates ranging from school bus replacement to civil rights. Most school districts have less than 5% of their budget available for program improvement (e.g., replacing old textbooks) — or for cutting programs (short of firing personnel).

V. Highlights of Responses from Idaho

- Losing forest funds would be a disaster because no new equipment could be purchased, no major repairs could be made and no remodling could take place, since the amount of money needed could not be raised by passing a levy.

- The impact of losing the timberland monies would be devastating because all of the buses, equipment, general maintenance and operation monies come from these funds.

- We would virtually be bankrupt because we are a very poor school district that relies heavily on forest monies. We have no ability to budget capital outlays so that if there is a bus accident, we rely on forest money; if there is an increase in class size, we rely on forest money.

- A 91% cut would mean losing a couple of indispensable teachers' salaries and valuable supplies.

VI. Highlights of Responses from California

- It would cause a considerable loss of funds for upgrading teaching skills and administrator competencies as well as diminish the purchase of instructional materials and equipment.

- Since we are a rural county that is sparsely populated, we have higher than normal transportaion costs. Since 50% of these funds go to the County Roads Department for improvement and addition of roads within the county our loss per mile for school transportation is unusually high so this is an area where our Forest Reserve receipts are critical.

- Our entire library and music programs would have to be eliminated. Furthermore, we would suffer a reduction in textbooks and in instructional supplies.

- We would be drastically affected. Seventeen percent of our budget would be lost. We would have to cut the variety of curricula offered, soon then reduce staff, and eventually look at school closure as we could no longer compete with schools offering more curricula.

- The services being provided with Forest Reserve Funds are ones which local districts would find difficult, if not impossible, to make available for their teachers and/or students. If some of these services were not provided, they would probably disappear in this rural environment with a limited population. The county can only provide them at this time because forest reserve funds are available.

- A reduction of school nursing services by 25-30% would be one major area of reduction. Another area would be in curriculum consultant support services for schools. At this time, no school agency in this county has any full-time personnel available to do this role. The demands for these services of the county curriculum personnel are extremely heavy in view of recent school reforms and curriculum legislation.

VII. Conclusion

NSBA is deeply committed to the retention of the 25% U.S. Treasury payment of Forest Service receipts to the States for the benefit of public schools and roads. NSBA believes that these payments reflect compensation for the maintenance and operation of public schools in communities in which funding would otherwise be unavailable or scarce.

Furthermore, NSBA believes that the purpose for enactment of 16 U.S.C. 500 has not diminished since 1908, but rather, as communities located in or adjacent to National Forests have suffered the affects of a depressed timber market, that the need for percentage payments has increased.

RUN DATE: 11/30/83

QTR: 4

PAGE: 1

ASR-10-1

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS
FISCAL YEAR 1983
OCT 1,1982 THRU SEP 30,1983
---------STATE SUMMARY---------

STATE	FY-83 NF ACRES	25% fund PAYMENT ACT OF 5/23/08	PAYMENT ACT OF 6/20/10	PAYMENT ACT OF 6/22/48	TOTAL PAYMENT	PAYMENT PER ACRE
ALABAMA	844,378	2,247,058.73			2,247,058.73	3.
ALASKA	23,043,437	1,375,068.41			1,375,068.41	
ARIZONA	11,219,462	3,368,540.45			3,368,540.45	
ARKANSAS	2,477,518	5,302,970.40			5,302,970.40	2.
CALIFORNIA	20,405,623	42,551,120.38			42,551,120.38	2.
COLORADO	13,818,593	2,025,107.30			2,025,107.30	
FLORIDA	1,090,550	2,559,030.48			2,559,030.48	2.
GEORGIA	861,568	1,091,424.18			1,091,424.18	1.
IDAHO	20,382,867	8,874,295.54			8,874,295.54	
ILLINOIS	261,444	85,485.01			85,485.01	
INDIANA	187,382	163,522.23			163,522.23	
KENTUCKY	673,116	294,946.43			294,946.43	
LOUISIANA	597,639	3,073,570.39			3,073,570.39	5.
MAINE	47,283	18,515.81			18,515.81	
MICHIGAN	2,763,184	943,444.21			943,444.21	
MINNESOTA	2,798,810	662,933.36		711,904.45	1,374,837.81	
MISSISSIPPI	1,143,953	8,773,430.29			8,773,430.29	5.
MISSOURI	1,455,542	1,552,729.54			1,552,729.54	1.
MONTANA	16,765,671	4,505,490.31			4,505,490.31	
NEBRASKA	257,257	36,168.11			36,168.11	
NEVADA	5,150,088	251,732.09			251,732.09	
NEW HAMPSHIRE	705,674	276,335.60			276,335.60	
NEW MEXICO	9,207,647	1,284,181.82			1,284,181.82	
NORTH CAROLINA	1,215,657	960,230.87			960,230.87	
NORTH DAKOTA	796	73.53			73.53	
OHIO	177,150	75,385.15			75,385.15	
OKLAHOMA	248,085	700,138.87			700,138.87	2.
OREGON	15,078,045	69,212,544.83			69,212,544.83	4.
PENNSYLVANIA	510,518	1,394,098.08			1,394,098.08	2.
SOUTH CAROLINA	610,394	3,349,507.30			3,349,507.30	5.
SOUTH DAKOTA	1,134,225	620,742.01			620,742.01	
TENNESSEE	625,575	403,482.09			403,482.09	
TEXAS	665,082	4,194,179.89			4,194,179.89	6.
UTAH	7,989,521	755,549.23			755,549.23	
VERMONT	294,522	120,018.62			120,018.62	
VIRGINIA	1,032,307	583,280.83			583,280.83	
WASHINGTON	10,614,574	20,840,168.04			20,840,168.04	1.
WEST VIRGINIA	972,767	274,222.54			274,222.54	
WISCONSIN	1,503,316	556,391.49			556,391.49	
WYOMING	8,682,014	750,867.11			750,867.11	
PUERTO RICO	27,848	12,848.40			12,848.40	
GRAND TOTAL:	187,949,338	192,710,819.13		711,904.45	193,422,723.58	1.

Exhibit A

ALLOCATION OF FEDERAL FOREST RECEIPTS BY STATES

Number of States	Percent Allocation Schools / Roads	States
1	100% - Schools	VA
1	At least 80% - Schools	NE
1	80/20	WV
4	75/25	AK,MI,MO,PA
1	Not less than 50% to schools	WA
12	50/50	AL,CA,FL,IL,MN, NV,NM,TX,KY,SD, UT,WI
1	50% - Parrishes 50% - School Boards	LA
1	50/50 with excepted counties	MS
1	33-1/3 / 66-2/3	MT
1	30/70	ID
3	25/75	AK,OR,OK
2	5% min. / 5% min.	CO,WY
4	Fully discretionary with county	AZ,NH,VT,ME
7	No statutory provision found	GA,IN,OH,NC,ND, SC,TN

Data Source: Library of Congress, Congressional Research Service, American Law Division Report, February 23, 1981.

OSBA:jcm
4/5/83

Exhibit B

Idaho School Districts Respond to Loss of Timber Receipt Funds

SCHOOL DISTRICT	APPROX. AMT. OF FOREST FUNDS LAST YEAR	AMOUNT OF FOREST FUNDS EXPECT THIS YEAR	% OF SCHOOL DISTRICT REVENUE ALLOCATED TO FOREST FUNDS	IMPACT OF 91% CUT
KELLOGG	$450,000	Never know from year to year	@ 12%	The county is so dependent on forest money - even for operating roads - that the impact would be devastating.
MULLAN	$ 69,909	About the same amount	@ 30%	The impact would be very dramatic - a substantial amount of the operating budget would be eliminated.
WALLACE	$266,632	No way of knowing at this time	@ 13%	The impact would level a tremendous blow they couldn't recover from. Considering that they could not raise the amount of money needed for capital expenditures by passing a levy, no new equipment could be purchased, no major repairs could be made and no remodeling could take place.
AVERY	$ 17,071	Hope it will be about the same, but it's difficult to project. A lot of mills are in trouble so it is rumored that it will be less.	@ 21%	It would be very sad if the funds were cut dramatically. A lot of school districts in the state had to go to forest funds just to keep their ship afloat.
GRANGEVILLE	$312,000	Budgeted about $300,000 for next year.	@ 14%	They'd have to go to local tax payers as an override for every penny of it. They are spending the pennies that are now in reserve. They use every bit every year.

Exhibit C

Idaho School District Respond to Loss
of Timber Receipt Funds

SCHOOL DISTRICT	APPROX. AMT. OF FOREST FUNDS LAST YEAR	AMT. OF FOREST FUNDS EXPECTED THIS YEAR	% OF SCHOOL DISTRICT REVENUE ALLOCATED TO FOREST FUNDS	IMPACT OF THE 91% CUT
COTTONWOOD	$ 95,000	Probably about the same as last year or a little less	@ 15%	The impact would be terrible. The original intent was for building improvements; upkeep, etc. Grounds and building improvements would go by the wayside. Within a couple of years there would be no money in that account. A facilities levy would be required.
BONNER	$210,000	Hope it will be equal to last year	@ 43%	The impact would be horrendous. It would cut them out of a lot of maintenance money. 18 buildings are used for maintenance. Schools are 90 miles apart and it would be impossible to maintain the buildings.
BOUNDARY	$200,864	$125,000	17%	The impact would be terrible because all of the buses, equipment, general maintenance and operation monies come from these funds.
LAKELAND	$ 18,000	@ $ 20,000	Less than 1%	The impact would not be great since the forest monies are so small a percentage of the total budget. They accumulate federal forest funds over time and then apply them to a capital expenditure.

Idaho School Districts Respond to Loss
of Timber Receipt Funds

SCHOOL DISTRICT	APPROX. AMT. OF FOREST FUNDS LAST YEAR	AMT. OF FOREST FUNDS EXPECTED THIS YEAR	% OF SCHOOL DISTRICT REVENUE ALLOCATED TO FOREST FUNDS	IMPACT OF THE 91% CUT
COEUR D'ALENE	$ 88,000	Anticipating less because price of logs is down. May be as low as $60,000.	Less than 1%	Very poor school district that relies heavily on forest monies so the impact would be significant. They would virtually be bankrupt. There is no ability to budget capital outlays so that if there is a bus accident they rely on forest money, if there is an increase in class size, they rely on forest money. There is no margin in the budget whatsoever. Lost a great deal of federal funding. The economy of the state is depressed, and small appropriations are hampered by a 5% lid on local tax limits in a rapidly growing community.
POST FALLS	$ 38,350	No idea. Don't usually know until the fall.	@ 12%	It would be a disaster because with 3,150 children, the district operates with 1/2 the budget of the majority of school districts in the nation. A 91% cut would mean losing a couple of indispensable teachers' salaries and valuable supplies.
KOOTENAI	$ 2,136	@ $4,172	@ 5%	It would not have a great impact. The local folks merely have to pick up the slack in their regular supplemental levy on property taxes.
WORLEY	$ 800	Less this year - about $600.	Less than 1%	0 impact